

**INDICATORS OF SUCCESS:
MEASURING OUTCOMES OF EVACUATING PETS IN STATE AND LOCAL
EMERGENCY PREPAREDNESS OPERATIONAL PLANS IN AREA OF ECONOMIC
AND PUBLIC HEALTH VALUE**

by

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Abstract

On October 6, 2006 President Bush signed the Pets Evacuation and Transportation Standards Act (PETS Act, Pub. Law No. 109-308). The Act ensures that state and local emergency preparedness operational plans address the needs of individuals with household pets and service animals following a major disaster or emergency (The Library of Congress, 109:H.R. 3858, 2006). This thesis identifies nineteen indicators to be used to evaluate the effectiveness of the PETS program in the areas of economics and public health. This report gives specific examples of how each indicator can be used to measure, assess, guide, and monitor the outcomes of evacuating pets in state or local emergency preparedness operational plans.

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Dedication

This research is dedicated to the pet owners and their pets that lost their lives needlessly after two of the most devastating catastrophes in the United States, Hurricane Katrina and Hurricane Rita. Because of them new laws were formed to ensure pet owners and their animals are not forgotten in a disaster.

DEFINITIONS

Co-located Shelter: A new concept, meaning the pet shelter area is adjacent to or very near the human shelter to eliminate problems of transportation, supplies and labor that exist when animals are housed at fairgrounds or garages several miles away (Goldman, 2009).

Congregate Household Pet Shelters: Any private or public facility that provides refuge for rescued household pets and the household pets of shelterees in response to a declared major disaster or emergency (“FEMA: Eligible Costs,” 2007).

Congregate Shelter: Any private or public facility that serves a day-to-day non-refuge function and provides contingency congregate refuge to evacuees. Examples are schools, stadia, and churches (“FEMA: Eligible Costs,” 2007).

Emergency: Any occasion or instance for which, in the determination of the President, Federal assistance is needed to supplement state and local efforts and capabilities to save lives and to protect property and public health and safety, or to lessen or avert the threat of a catastrophe in any part of the United States (“FEMA: Number of Declarations,” 1999).

Household Pets: A domesticated animal such as a dog, cat, bird, rabbit, rodent, or turtle that is traditionally kept in the home for pleasure rather than for commercial purposes and can travel in commercial carriers, and be housed in temporary facilities. Household pets do not include reptiles (except turtles), amphibians, fish, insects/arachnids, farm animals (including horses), and animals kept for racing (“FEMA: Eligible Costs,” 2007).

Major Disaster: Any natural catastrophe (including any hurricane, tornado, storm, high water, wind-driven water, tidal wave, tsunami, earthquake, volcanic eruption, landslide, mudslide, snowstorm, or drought), or, regardless of cause, any fire, flood, or explosion, in any part of the United States, which, in the determination of the President, causes damage of sufficient severity and magnitude to warrant major disaster assistance under this Act to supplement the efforts and

available resources of states, local governments, and disaster relief organizations in alleviating the damage, loss, hardship, or suffering caused thereby. (“FEMA: Glossary/Acronyms,” 2010).

Presidentially Declared Disaster: Any disaster for which the President issues a major disaster declaration and thereby authorizes the provision of individual and/or public assistance from the federal government. Cities, counties, and other local jurisdictions that are designated as part of a major disaster area and are eligible for federal aid as a result of the Presidential declaration are published by notice in the Federal Register by the Federal Emergency Management Agency (“Texas Department of Housing,” 2010).

Service Animals: Any guide dog, signal dog, or other animal individually trained to provide assistance to an individual with a disability including, but not limited to, guiding individuals with impaired vision, alerting individuals with impaired hearing to intruders or sounds, providing minimal protection or rescue work, pulling a wheelchair, or fetching dropped items (“FEMA: Eligible Costs,” 2007).

Transitional Shelter: Any private or public facility that provides short-term lodging and increased degree of privacy over a congregate shelter. Examples are hotels, motels, and cruise/berthing ships (“FEMA: Eligible Costs,” 2007).

ACRONYMS USED IN THIS REPORT:

APPA	American Pet Products Association
ARC	American Red Cross
ART	Animal Response Team
AVMA	American Veterinary Medical Association
AVMF	American Veterinary Medical Foundation
CART	Community Animal Response Team
CPG	Comprehensive Preparedness Guide
DHS	Department of Homeland Security
DVM	Doctor of Veterinary Medicine
EMA	Emergency Management Agency
EOC	Emergency Operations Center
EOP	Emergency Operations Plan
EPA	Environmental Protection Agency
ESF	Emergency Support Function
FEMA	Federal Emergency Management Agency
GOA	Government Accountability Office
HPSA	Household Pets and Service Animals
HSUS	Human Society of the United States
ICS	Incident Command System
IEMS	Integrated Emergency Management System
IS	Independent Study
KDEM	Kansas Division of Emergency Management
KPS	Kansas Planning Standards
KSSART	Kansas State Animal Response Team
LEOP	Local Emergency Operations Plan
MRC	Medical Reserve Corp
NGO	Non-Governmental Organization
NIMS	National Incident Management System
NRF	National Response Framework
NRT	National Response Team
NSS	National Shelter System
PETS	Pets Evacuation and Transportation Standards Act
PKEMRA	Post-Katrina Emergency Management Reform Act
PNP	Private Nonprofit
SART	State Animal Response Team
SOG	Standard Operating Guidelines
SOP	Standard Operating Procedures
VOAD	Voluntary Organizations Active in Disaster

CHAPTER 1 – Introduction

People and animals are negatively affected by nature's powerful forces, particularly natural disasters. The media continuously report that American pet owners value their animals' lives and are unwilling to evacuate if their furry family members are denied rescue, shelter, or transportation to a safe area (Gaskell, 2008). History shows that humans are less likely to engage in self-protective behaviors during emergencies and may actually take personal risks if adequate care is unavailable for their pets (Animal Disasters, 2005; Basler, 2006). For example, during the 1997 Yuba County, California flood, an estimated 120 of 575 households with pets failed to evacuate (Heath, Kass, Beck, & Glickman, 2001). During the 2004 hurricane affecting Pasco County, Florida, the inability to stay with their pets was one of the reasons thousands of people failed to evacuate (Decamp & Writer, 2007). In a survey of 1,006 New Yorkers, the American Kennel Club found that 62% would defy authorities during a natural disaster to stay with their pets if not allowed to evacuate with them ("American Kennel Club Survey," 2006).

Returning to a disaster area to rescue their pets is also a major concern. For example, 80% of people who reentered a flood evacuation site did so to rescue their pets in Yuba County, California (Heath, Voeks, & Glickman, 2000). Of the 203 households that were evacuated, 22.2% entered the evacuated area prematurely; 37% of those households did so to rescue their pet. Attempts to rescue pets were most common in households with children (Heath et al., 2000). A later study reported that 41% of pet-owning households that evacuated without their pet later re-entered the disaster area to attempt to rescue their cat or dog (Beaver, Gros, Bailey, & Lovern, 2006).

Approximately 63% of all U.S. households owned pets in 2006, which equals more than 69 million households (American Pet Products Manufacturers Association, National pet owners survey, 2006). Nearly half, or 49.7%, of these owners consider their pets to be family members. That is a pet ownership population of approximately 39,999,057 households (American Veterinary Medical Association (AVMA), 2007). A large number of these pet owners are low-income. In 1991, 47.4% of individuals living below the poverty level (less than a \$12,500

annual income) owned pets. In 1996, the percentage slightly increased to 47.8% (American Veterinary Medical Association, 1997). In 2007, only 18.7% of all US households earned less than \$20,000 a year yet 16.1% of this population owned pets AVMA (2007). While individuals earning less than \$20,000 have decreased, the number of disadvantaged has increased. Because of limited resources, a growing number of already disadvantaged individuals who own pets are at greater physical risk of loss of life if they are unable to either evacuate with their pet or evacuate their pet.

Loss of a pet compounds the enormous sense of loss, be it loss of physical possessions, community, and or normalcy, experienced by disaster survivors. Loss of a lifelong animal companion or pet can delay recovery, and stifle hope. Public sentiment has shifted toward a greater awareness of the emotional toll of disasters on humans with pets and demands “a more appropriate and ethical treatment of all living creatures” (Leonard & Scammon, 2007). The PETS Act is one manifestation of this public sentiment.

Evacuation of pets is important not only to pet owners but also to general public health. The City of New Orleans could have reduced contamination of water and food supplies had pet owners been able to take their animals with them during rescue, rather than having to abandon their pets to roam the city alone. Free-roaming animals in time of disaster can contaminate water and food supplies. Sick or dead animals spread bacteria, viruses, and parasites which can also cause infectious diseases, including cholera or anthrax (Bloomberg.com, 2005).

Congress noted the loss of human life and grief of the Hurricane Katrina victims and passed a law to ensure pets would be included in future emergency response plans. On October 6, 2006, President Bush signed the Pets Evacuation and Transportation Standards Act (PETS Act, Pub. Law No. 109-308). The PETS Act was passed with overwhelming bi-partisan support with a vote of 349 to 29. In addition to the potential loss of life, the rationale for accommodating pets in disasters included issues of economics, public health, emotional well-being of humans who share bonds with pets, and the welfare of the pets themselves (Leonard & Scammon, 2007).

The PETS Act is designed to have three main impacts. First, it requires state and local emergency plans to include provisions for people with household pets and service animals. It allows the federal government to withhold grant funding for noncompliant entities. Second, the Federal Emergency Management Agency (FEMA) may include expenses related to companion animals under their cost-sharing programs. Third, the Act allows FEMA to provide funding to help develop state and local capabilities (Press Release: Colorado Veterinary Medical Foundation, 2006). The PETS Act amends the Robert T. Stafford Disaster Relief and Emergency Assistance Act by ensuring that state and local emergency preparedness operational plans address the needs of individuals with household pets and service animals following a major disaster or emergency (The Library of Congress, 109:H.R. 3858, 2006).

The Act has many supporters. Some believe that if emergency planning acknowledges the significance of animals to humans, enhanced safety of humans will be a natural by-product (Leonard & Scammon, 2007). Of course, there is always another side to the story. Many feel including pets in emergency plans is a waste of taxpayers' money. Republican Assemblyman Ray Haynes voted against the 2006 California legislation that would require evacuation plans for pets and livestock. Haynes stated:

The legislature should not spend limited taxpayer money on contingency plans for animals when human lives should be the top priority. I just think it's a foolish thing to engage in... We have a hard enough time trying to save all the people that are threatened. ("Senate Panel Approves," 2006)

Georgia's Republican representatives Lynn Westmoreland of Coweta County and Charlie Norwood of Augusta voted against the bill that requires rescue of dogs, cats, and other domestic pets in time of disaster. "As warm and fuzzy as the legislation sounds, it would impose unfunded federal mandates on states and sap funding and resources from other emergency planning," reported Westmoreland and Norwood's aides (News, U. F., 2006). Westmoreland's spokesman Brian Robinson argued, "This is not a federal responsibility, it's a federal infringement on state authority...and it just seems silly on top of it" (News, U. F., 2006). Norwood's spokesman, John Stone said "his boss believed the federal government still had a ways to go to ensure it was capable of saving people in the face of a natural disaster, let alone pets" (News, U. F., 2006).

Many fear the priority of saving human lives could be lost by rescuing animal lives. In other words:

“...plans and policies shouldn’t elevate animals’ importance at the expense of human safety. If rescue boats are limited, space shouldn’t be taken up by dogs and cats. If shelters can’t provide for pets in a sanitary way, the quarters should be restricted to people.” (Basler, 2006)

Finding suitable sites for pet-friendly shelters is an additional concern. These shelters must meet health codes including cleaning of these shelters. “There’s no way I can solve the housing equation for all pets...a pet-friendly shelter would be just a ‘band-aid,” Pasco County, Florida’s Emergency Management Director, Jim Martin stated (Decamp & Writer, 2007, p. 1). Martin goes on to protest that Pasco is 22,000 beds short of the total 50,000 beds needed for people who would evacuate to shelters in Pasco County, Florida. However, one reason thousands of people failed to evacuate in Pasco during the 2004 Hurricane was to stay with their pets (Decamp & Writer, 2007).

In addition to these drawbacks, the health and safety of those inside the pet-friendly shelter is a legitimate concern. According to Rick Alatorre, Disaster Services Director for the Palmetto Chapter of the American Red Cross, “Those who have evacuated to a shelter could be allergic to animals or have phobias that can add to their panic. At the same time, normally docile pets sometimes will act out under the stress of the situation” (Williamson, 2006). The issue of humans and animals in one small space could be a litigious landmine, an issue that is of great concern to the public health and safety of disaster victims.

In summary, awareness of the pet owner population has recently come to the forefront of emergency planning. The most recent hurricane disasters have provided evidence that pet owners are in need of protection. Congress responded by passing the PETS Act. In analyzing the arguments for and against the Act and reviewing the Act itself, much like many other plans and policies in place, there are no measures to indicate whether the plan is a success or failure. Therefore, the purpose of this research is to neither support nor critique PETS, but rather to

establish a set of public health and economic indicators that communities can use to evaluate the degree to which emergency response plans at the local and state level incorporate pets.

Other Elements to Be Considered

Based on Experience with Previous Disasters

This thesis identifies indicators to be used to evaluate the effectiveness of the PETS program in the areas of economics and public health. FEMA supports and enforces state and local compliance with the PETS Act. FEMA specifically outlines reimbursable expenses by state authority, the emergency manager, and at the local level by public assistance grant money.

Economic Value

What is the value of economics to tax payers and the government? Because public funds are being used in the evacuation and sheltering of household pets in the time of disaster, there is a strong need to create indicators to measure the effectiveness and costs of states and local communities' expenses to ensure compliance with the PETS Act. FEMA's Public Assistance Grant Program Briefing and FEMA's Eligible Costs Related to Evacuations and Shelter are reviewed here to explore the economic value of the PETS Act to American taxpayers.

The PETS Act requires FEMA to support state and local governments in evacuating and sheltering pets. The actual responsibility for evacuating and sheltering pets lies with states and local governments. This is a community-wide issue. Public assistance grant money is available to states and may be used to reimburse costs accrued by pet shelters evacuating pets and veterinary staff for emergency and immediate life-stabilizing care following a presidentially declared disaster. Eligible applicants and activities are outlined in FEMA Disaster Assistance Policy 9523.19, Eligible Costs Related to Pet Evacuations and Sheltering, issued October 24, 2007. The Assistance Policy 9523.19 states that household pets and service animals will not be separated from their owners, will ride on any form of transportation, will enter food service areas and will stay, at the owner's cost, in a shelter. Post-disaster evacuation and sheltering of pets must also be provided. Understanding limitations before a disaster strikes, will help

communities build response capabilities, allow state and local emergency managers to develop pre-disaster plans, and coordinate animal evacuations and sheltering operations before disasters (Public Assistance Grant Program Briefing, 2008).

Expenses eligible for reimbursement include any expenses related to state and local emergency evacuation and sheltering activities for the time a facility is actively used to shelter disaster victims. There are two distinct forms of sheltering, congregate shelter and transitional shelter. A congregate shelter is any private or public facility that serves a day-to-day non-rescue function that provides contingency congregate refuge to evacuees. Examples are schools, stadiums, and churches. Transitional shelter is any private or public facility that provides short-term lodging function and an increased degree of privacy over a congregate shelter. Examples are hotels, motels, and cruise/berthing ships (“FEMA: Eligible Costs,” 2007). These expenses must be measured by emergency planning agencies to determine whether funds are being used appropriately and whether the PETS Act is successful at the state and local level.

Public Health Value

What is the value to public health? Reducing the loss of human life is one of the most important public health benefits from including pets in emergency response plans. Simply stated the human-animal connection influences individuals and communities to comply with evacuation plans (Hall, Ng, Ursano, Holloway, Fullerton, & Casper, 2004).

Heath et al. (2001) conducted a quantitative study during the Yuba County, California 1997 flood. Their findings support the claim that pet owners may not evacuate from disaster if they are unable to take their pets with them. Households with pets were more likely to refuse to evacuate (20.9% of 397 households surveyed) than households without pets (16.3%). Moreover, the more pets a household owned, the higher the risk of evacuation failure, even when receiving a 36-hour advance evacuation notice of flood.

Heath et al. in (2001) found three reasons pet owners may not evacuate a disaster. Pet owners are less likely to evacuate (1) if they cannot take their animals with them, (2) if they

anticipate being separated from their pets, or (3) if they are turned away from public shelters because of their pets. The authors also found the strength of the human-animal bond to be particularly relevant to the evacuation of pet owners. Because of the high percentage of pet ownership in the U.S., their refusal to evacuate may have a large impact in disasters (Heath et al., 2001).

Pet owner households had a greater difficulty finding accommodations than those without pets. Roughly 7.4% of pet owner households stayed in their cars, campgrounds, or other accommodations during evacuation. “This suggests that having to find alternative accommodations for pets in a prolonged evacuation forces a significant lifestyle change on some households and could in some cases even lead to temporary homelessness” (Heath et al., 2001, p. 664).

The importance of animals to public health in general has been emphasized by psychology, sociology, and veterinary science. Numerous scientific studies performed over the past 25 years support beliefs that people are healthier as result of companionship with a pet.

Human attachment to animals may really be a unique bond, similar to but different from human attachment to humans...In one study, researchers determined that more than one-third of the dog owners in the study felt closer to their dogs than to any human family member. (Hall et al, p. 270)

In addition, “The emotional bond between owner and pet can be as intense as that in many human relationships and may confer similar psychological benefits” (McNicholas, Gilbey, Rennie, Ahmedzai, Dono, & Ormerod, 2005, p. 1252). For example, McNicholas et al. state that when faced with death of a pet, grief can cause pet owners to refuse to take care of their own health. Furthermore, the authors claim, many studies have demonstrated that animals have improved human cardiovascular health, reduced stress, decreased loneliness and depression, and facilitated social interactions among people who choose to have pets. Additionally, McNicholas et al. argue against the practice of encouraging terminally ill, pregnant, or immune compromised people to relinquish their pets due to concerns about zoonoses, a disease of animals such as rabies or psittacosis, that can be transmitted to humans under natural conditions. This practice

may be detrimental to the owners' overall health. "In many instances, human health professionals can contribute to the welfare of their patients by encouraging them to maintain bonds with their pets, even in the face of serious illnesses and other challenges" (McNicholas, et al., 2005, p. 17).

The importance of this bond has been recognized in emergency planning. Goldman reported that over the past 10 years, emergency first responders and animal welfare communities discovered that "safe, efficient and complete evacuation requires that animals of the evacuees be cared for as well" (Goldman, 2009, p. 6D). Today teams across the country are created to care for animals during evacuations and are prepared to provide that care. Furthermore,

Federal, state, and local governments are cooperating to develop and enhance these teams. This is a change and reflects the new understanding of our animals as family members. It also reflects an appreciation of the human-animal bond and the deep well of humanity that infuses our society. (Goldman, 2009, p. 6D)

Today, disaster plans include the new co-locate shelter, a pet shelter area that is adjacent to or very near the human shelter to eliminate problems of transportation, supplies, and labor that exist when animals are housed at fairgrounds or garages several miles away (Goldman, 2009). In addition, today's disaster plans emphasize preparation that includes the family pets. For example, Goldman emphasized the following four items when preparing for an emergency: (1) micro chipping and registering pets through identification (ID) programs and ID tags remain on animals at all times, (2) preparing a "go-kit" for each family member, including pets. Animal kits should include two-week supply of food/water/medication; hygiene products such as cat litter or cage/crate, leashes/collars/veterinary, records/photos of pets, and veterinarian's contact information. (3) maintaining updated copies of veterinary records and immunizations, and (4) bringing pets inside immediately when emergency looms (hurricane/tornado).

A good example of how local communities are implementing the PETS Act could be seen after Hurricane Gustav. Animal rescuers searched for pets that had been left in backyards (Peters, 2008). This is a change from pet owners' cries for help during and after Hurricane Katrina.

Rescuers from Humane Society of the United States and Best Friends Animal Society and volunteers were sent to Louisiana, but they were sleep deprived and storm-battered and had to wait to be officially authorized to enter areas. Pet owners and pets were handled well during Gustav in comparison to Katrina because pet-friendly evacuation centers and public transportation was provided for those without means to drive out of disaster area. It was reported residents who had their own transportation were less likely to leave animals behind (Peters, 2008).

Linda Anderson, who with her husband, Allen, investigated Katrina and wrote *Rescued: Saving Animals From Disaster*, stated government officials and procedures have taken into account that people won't leave without their animals and have made appropriate provisions. "The intake procedures are organized and standardized so animals don't get lost in the system. ... (The government) is working side by side with the animal groups" (Peters, 2008, p. D.4).

Sandy Monterose of the American Society for the Prevention of Cruelty to Animals, reported more than 1,000 evacuee-owned dogs, cats, birds, bunnies, hamsters, iguanas, and one snake, was cared for at the Mega Shelter in Shreveport. She was one of many volunteering there (Peters, 2008). Equipment and supplies were a concern. Best Friends organization had to rush a shipment of 3,000 animal crates after discovering many "pet-toting people" arrived at pick-up sites without crates.

Daily News writer, Amy Sacks, reported on September 6, 2008 that Garo Alexanian, in charge of the Companion Animal Network based in Queens, New York, desperately needed volunteers. Alexanian went to Terrebonne Parish in south Louisiana where many dogs remained tied up and left in homes that had no gas, electricity, or drinkable water.

In addition to the need for volunteers, supplies such as cages, dog food, cat food, medicine, feeding bowls and large vehicles for transportation were desperately needed (Sacks, 2008). Teams present included other New York area animal groups that deployed before the storm and remained in the area to offer assistance. A team from North Shore Animal League came with two mobile van units to help transport animals from high-risk shelters to safe havens (Sacks,

2008). Senior Director of Operations, Diane Johnson and four drivers helped to relocate 40 dogs evacuated from the Plaquemines Animal Welfare Society to the Great Birmingham Humane Society in Alabama. The dogs remained there until they could be transported back to the Port Washington, [Long Island, New York], and sheltered for adoption (Sacks, 2008). The same team also deployed to Tylertown, LA to transport 38 elderly dogs with health problems and 13 cats that were evacuated before the storm to a no-kill shelter in Algiers, LA. This team remained available for any other animals in need (Sacks, 2008). Johnson expected to wrap up their work in Louisiana by transporting 200 cats and dogs evacuated from Louisiana shelters back to North Shore. "Many lessons in how to deal successfully with Gustav were learned from the chaos of Katrina" (Sacks, 2008).

"People were not going to leave this time without their pets," said Allison Cardona, who heads the ASPCA's disaster response team of veterinarians and caregivers. The group worked on the prestorm evacuation of people and their pets and is provided care for more than 800 animals at a mega-shelter in Shreveport, LA. The need to provide transportation and a place to shelter pets, Cardona said, was the most important lesson learned from Katrina, where thousands of animals were left stranded and many people had refused to evacuate New Orleans without their pets.

In addition to getting many hotels to waive their "no pets" policy, the group helped process thousands of pets that might have otherwise been stranded through a streamlined organization and identification procedure. Pet owners who were evacuated on transportation provided by the government were photographed with their animals, and both were given wristbands with the same identification number. Smaller animals rode on the laps of their owners, and larger ones rode in air-conditioned trucks as they were bused to animal friendly shelters throughout the region.

At the mega-shelter set up at the Shreveport Fair Grounds, people housed in a Red Cross facility could visit their animals, sheltered next door in an agricultural center. Hundreds of cats and dogs, five rabbits, 39 pigeons, a hermit crab and dozens of hamsters, parrots, reptiles and guinea pigs remained at the shelter, waiting until it's safe to return to their homes.

After the storm had passed, the continued rescue effort entailed working in reverse - reuniting people with their pets, returning to evacuated areas and transporting animals from closed shelters to new ones for adoption. Still, Gustav is a reminder to pet owners everywhere. "The first thing to do is have your own personal preparedness plan," Cardona noted (Sacks, 2008).

More than 1,000 animals were rescued on Galveston Island in the weeks after Hurricane Ike, reported Galveston Human Society director, Caroline Dorestt. More than 400 eventually were reunited with their owners after being shipped to Houston SPCA (Gallay, 2009).

CHAPTER 2 - Literature Review

Indicators are used by many disciplines and many industries to measure the effectiveness of their performance and policies. The literature reviewed defines indicators and explores how indicators are used in various industries. Indicators are defined in this thesis as a data element that quantified performance. “In general, indicators present a mechanism for simplifying complex urban phenomena and relationships” (Mitra, 2003, p. 30). They may be used

...to measure performance of policies and programs; to examine trends; to monitor conditions; to inform decision-makers; to raise public awareness; to define targets; to set planning objectives; to compare localities horizontally (across space; or longitudinally (over time); to raise flags in an early warning system; to guide strategic investment choices; or to challenge conventional wisdom. (Mitra, 2003, p. 32)

The three popular types of indicators used to measure progress in the U.S. are community indicators, sustainability indicators, and quality of life or community health indicators. Urban planning, policy, and public administration commonly use community indicators to measure progress. In 1997, a nonprofit organization recognized an “explosion of community indicators,” a movement that spread across the U.S. and the world (Mitra, 2003, p. 34).

During the Great Depression, H.L. Mencken published articles about the quality of life in cities and states.

Mencken’s rankings were based on household incomes and education levels, crime rates, housing prices, infant mortality, and other now-standard statistical measurements. Nearly thirty years later, in the 1960s and 1970s, the US Census Bureau published a series of quality of life measurements for cities and states. Attitude surveys were born from this process, to survey citizens and find out how they felt in their neighborhoods, how long their commute was and how they felt about the environment. Among the more well-known indicators are the growth rate in the gross domestic product, the unemployment rate, the consumer price index, and the Dow Jones Average. (Mitra, 2003, p. 30)

Since then, interest in indicators has “waxed and waned” (Mitra, 2003, p. 30). In the 1970s the Urban Institute study of indicator projects between 1970 and 1977 identified 58

intracity reports. Toward the end of the 1970s, Cobb and Rixford observed that city-level social indicator programs in the U.S. were over. In the late 1980s and early 1990s, with growing popularity of the concept of sustainability, communities began developing indicators that were more holistic and multidimensional than previous indicators. During this time the concept of urban sustainability indicators (USI) was born. “USIs were designed to go beyond a focus on any one aspect of the environment, economy, or culture and instead present a more holistic, integrated, and interconnected analysis” (Mitra, 2003, p. 30).

Over the past 10 years, many USI programs helped refine and develop the science behind USIs. From this, six distinctive characteristics distinguish USIs from traditional measures. They are 1) holistic, 2) trend descriptive, 3) contextually relevant, 4) responsive to changing values, 5) technically valid, and 6) community driven (Mitra, 2003, p. 36).

Academics, policy makers, civil servants, business leaders, and activists have recognized the importance of sustainable development indicators, their potential value, and how they may be improved to better impact past policies and gaps that have lead to failure. For example, green accounting is a new concept that takes into account the gross domestic product (GDP) calculations by accounting for environmental stresses (Lawn, 2007). Two indicators of sustainable development that are superior to the mainstream macroeconomics indicators are the Index of Sustainable Economic Welfare (ISEW) and the Genuine Progress Indicator (GPI). Lawn goes onto discuss the conceptual framework for theorizing about the economy and the human-environment interaction. These discussions lead to new terminology such as critical natural capital, ecological footprints, ecological integrity, ecosystem health and measures of ecoefficiency (Lawn, 2007).

In summary, over the last 100 years, governments and other organizations have published statistics and analyses of social trends, specifically presenting data such as consumption, income, education, housing, and medical care, among others. This process of data gathering has become more systematic since the 1960s (Bognar, 2005). The push to gather this data was motivated by “perceived limitations of economic indicators of social welfare” (Bognar, 2005). One reason for this dissatisfaction was that economic indicators were often “macro-level indices.” In other

words, they might be useful for large-scale planning and analysis for social trends, but say little about particular aspects of society. Another reason for dissatisfaction was economic welfare, the “part of a person’s overall welfare that arises from economic sources” and connected economic activity, are “not sufficient to describe and evaluate the entirety of a person’s life conditions” (Bognar, 2005). This research became known as the “social indicators movement” (Bognar, 2005).

How Indicators Are Used

The medical field uses many indicators to measure effectiveness of physical activity and health. For example the U.S. Centers for Disease Control and Prevention tracked physical activity among people with disabilities between 1997 and 2006 (Kehn, & Kroll, 2009).

Almost every discipline uses some type of indicator to measure progress, effectiveness, success, and efficiency. Indicators also inform decision makers and create a common language between disciplines. Information was reviewed from the following agencies and disciplines as to how each defined, established, utilized, and their indicators:

- Community and Regional Planning Department University of British Columbia
- Government Accountability Office (GAO)
- Environmental Protection Agency (EPA)
- Department of Health and Human Services
- China’s Policy Research Center for Environment and Economy
- Homeland Security
- European Health Promotion Monitoring System
- Medical Reserve Corp (MRC)
- Federal Emergency Management Agency (FEMA)
- Vanderbilt University Tennessee
- The World Bank

Community and Regional Planning Department University of British Columbia. The University of British Columbia, Canada’s Community and Regional Planning Department, together with the Institute for Resources, Environment, and Sustainability used empirical data from the 1995 Kobe City, Japan earthquake to create a framework to measure recovery from an urban disaster through the use of statistical indicators. Chang’s research was used to develop

“systematic knowledge on how cities recover from disaster” (Chang, 2010, p. 303). Chang’s framework addresses defining recovery, filtering out external influences unrelated to the disaster, and making comparisons across dissimilar areas or events (Chang, 2010).

By making comparisons across disasters, Chang’s research indicated that a useful indicator should meet at least three criteria: (a) its definition should be universal (that is, meaningful and consistent across countries, cultures and historic time periods); (b) data should be readily available (that is, routinely collected and published at least annually), and (c) measurement should be standardized to allow meaningful comparisons across space and time. Quantitative indicators of community disaster recovery are useful for two analytical purposes: 1) to make comparison across different disaster events and 2) to make comparisons within a specific disaster event. Different indicators are appropriate for each of these purposes (Chang, 2010, p. 307).

Government Accountability Office. The Government Accountability Office (GOA) in November 2004 compiled environmental indicator sets from government agencies, universities, corporations, and other organizations. “Environmental indicator sets assemble quantitative measures of conditions and trends to assess the state of the environment, natural resources, and to gauge progress toward specific goals” (GAO-05-52, p.2). Federal and nonfederal entities realized that the widespread use of such indicators aid in measuring performance and improving oversight of any of the myriad purposes. They also help to raise public awareness and communicate complex issues. Now these indicator sets are being used to bridge the gap between needed and available information and to prioritize further data collection.

The GAO found that federal and nonfederal organizations develop environmental indicator sets for various purposes: 1) assessing conditions and trends; 2) communicating complex issues and; 3) supporting performance management activities. Some indicators are limited to use within specific natural areas such as watersheds, lake basins, or ecosystems. Some address specific resources such as water quality or land use. Yet others focus on quality of life or sustainable development. Indicator sets reviewed by GAO are primarily used in strategic

planning to communicate complex environmental issues, and track progress toward environmental goals (GAO-05-52).

Environmental Protection Agency. The Environmental Protection Agency (EPA) defines an environmental indicator as a numerical value that helps provide insight into the state of the environment or human health.

Indicators are developed based on quantitative measurements or statistics of environmental conditions that are tracked over time. Environmental indicators can be developed and used at a wide variety of geographic scales, from local to regional to national levels. By monitoring the environment using indicators, the EPA can better share meaningful environmental information with the public, and can help ensure that high-quality environmental decisions are made by EPA, its partners, and the public.” (U.S. Environmental Protection Agency, 2009)

Department of Health and Human Services. The Department of Health and Human Services, Centers for Disease Control and Prevention reported an Environmental Public Health Indicators Project for environmental hazards and health effects. Environmental public health indicators (EPHIs) are used to assess health status or risk related to the environment. EPHIs are also

...used to assess baseline status and trends, track program goals and objectives, and build core surveillance capacity in state and local agencies. The best indicators are those that reliably predict the relationship between human health and the environment, are routinely collected, and have well-accepted definitions and data collection standards. (Centers for Disease Control and Prevention, 2006, p.1)

Indicators that provide information about a population’s health status with respect to environmental factors are useful when clear measurable links are not available. As such, they can measure health or a factor associated with health in a specific population. For example, because the amount of lead in paint in older homes is difficult to measure, we use blood lead measurements in children to indicate both the lead paint hazard and the risk for childhood lead poisoning. Similarly, we measure microbial contamination in the water to indicate the risk for gastrointestinal illness (Centers for Disease Control and Prevention, 2006, p. 1).

Environmental Public Health Indicators can be used for 1) surveillance of health status or trends in order to: a) prevent and/or detect existing or new, known or suspected adverse public health events associated with environmental exposure and b) provide efficient and consistent reporting mechanism(s). 2) development of programs and policies development, planning, and evaluation by: a) tracking program goals and objectives b) supporting existing programs c) guiding research initiatives, and d) developing new program initiatives.

China's Policy Research Center for Environment and Economy. Engineers are using economic indicators to measure the environmental cost of China's ever growing 8.7 percent GDP increase per year. China's State Environmental Protection Administration (SEPA) and National Bureau of Statistics created an economic indicator, the Green Gross Domestic Product (green GDP). The green GDP will be calculated by deducting from the annual GDP the costs of resource depletion, pollution, and other environmental damage caused by economic development. However, the challenge is calculating the monetary worth of the environment. "Setting price is the major technological problem," says SEPA Deputy Director Pan Yun.

For instance, when we fell a forest and sell the timbers, the price of timber can be added into the GDP statistics, but how much is the cost of the ensuing animal extinction and soil erosion[?] There is no market price for the wild animals, birds, and soils," Pan says." (China's Green Leap Forward, 2005, p.4).

China's government will take two to five years to develop a Green GDP index system. Tao, chief economist of Policy Research Center for Environment and Economy, agrees a Green GDP is a good idea, however, "there will be no feasible way of calculating a useful green GDP in the foreseeable future". A second challenge is "resistance from governmental officials who have been judged solely on economic growth." However, many have begun to think in new ways about economic growth due to experience of the "pain of lack of resources and harms of environmental pollution." They may come to embrace the new index. (China's Green Leap Forward, 2005).

Homeland Security. Homeland Security uses indicators to measure conditions and trends to assess the state of the environment and natural resources and to gauge progress toward

specific goals. Data is being used to bridge the gap between needed and available information and help prioritize further data collection. Such use of environmental indicator sets has led federal and nonfederal entities to consider the benefits indicators would provide when measuring performance and improving oversight of environmental programs (Bauer, Davies, Pelikan, Noack, Broessekamp & Hill, 2003).

European Health Promotion Monitoring System. The purpose of the EUPHID Project is to develop a European Health Promotion Monitoring System based on a common set of health promotion indicators. Three working groups are involved in the task – health promotion policy and practice-driven, data-driven, and theory-driven. The EUPHID took a systems theory approach in order to develop a model that has a common frame of reference and a rational basis for the selection, organization and interpretation of health promotion indicators. The purposes of the health promotion indicators are to relate community actions and general systems relevant to health promotion practice. (Bauer, et. al., 2003)

Medical Reserve Corps. The Medical Reserve Corps (MRC) broadly defines performance measurement as collecting and analyzing real data to determine whether an MRC unit has achieved (or made progress toward achieving) its goal(s) and objectives. Program outcomes are compared against pre-established targets, such as unit goals and objectives, or benchmarks to assess how well the unit is performing. “Leaders can use this information as a basis for future strategic planning activities and to demonstrate the value of their unit to community partners, funders, government agencies, and volunteers” (MRC, 2007, p. 1).

MRC describes the following benefits of measuring performance:

- Determine whether progress has been made toward achieving goals and objectives
- Provide data-driven feedback to volunteers and stakeholders
- Identify and characterize successful components of your MRC
- Identify and characterize areas for program improvement
- Provide factual evidence of the value of your MRC (MRC, p. 1)

MRC uses a matrix for core competencies as a guide for training MRC volunteers at the local level. Core competencies are defined as “the baseline level of knowledge and skills that all

MRC volunteers should have, regardless of their roles within the MRC unit” (MRC Core Competencies). This article goes onto say,

...because the core competencies establish only a minimum standard, units may choose to expand on the competencies in order to train volunteers at a more advanced level. Units may also choose to link the MRC core competencies to other existing sets of competencies for health professionals. (MRC Core Competencies, p. 1)

The MRC use their “Competencies Matrix” as a “menu to options to guide MRC unit leaders. Leaders may choose trainings from the matrix, use other trainings not listed in the matrix, or create their own unit-specific trainings based on the competences” (MRC Core Competencies, p. 1).

“Utilizing the competencies makes interoperations’ between MRC units more efficient by providing a ‘common language’ in which units can communicate their volunteers’ capacities to each other and to partner organizations” (MRC Core Competencies, p. 1).

Federal Emergency Management Agency. FEMA uses indicators to compare and prioritize risks to determine hazards or threats that merit special attention in planning and other emergency and homeland security management efforts. The frequency of a hazard and its severity must be compared and prioritized. Creating indicators is the measuring tool.

While a mathematical approach is possible, it may be easier to manipulate qualitative ratings (e.g. high, medium, low) or index numbers (e.g. reducing quantitative information to a 1-to-3, 1-to-5, or 1-to-10 scale based on defined thresholds) for different categories of information used in the ranking scheme.

Some approaches involve the consideration of only frequency and consequences and treat them as equally important. In other approaches, potential consequences receive more weight than frequency. While it is important to have a sense of the magnitude involved, whether a single indicator used to rank hazards or to estimate the numbers of people affected, these indicators are static. Some hazards or threats may pose a risk to the community that is so limited that additional analysis is not necessary. (FEMA. State, Territorial, Tribal, and Local Government Emergency Plans, 2009)

Vanderbilt University. Vanderbilt University in Tennessee uses an emergency planning matrix to outline the duties and responsibilities of University offices and organizations in response to pandemic influenza. The Vanderbilt Pandemic Plan Matrix created in August 2009 was intended “to detail the responsibilities for policymaking associated with emergency management and continuing operations of essential departments in the event that a pandemic were to occur and affect the campus operations of Vanderbilt University” (Vanderbilt Pandemic Plan Matrix, 2009). The Vanderbilt matrix is divided into two main sections: Pandemic Planning Criteria for Vanderbilt Departments and Responsibilities of Essential Departments and Units.

The World Bank. World Development Indicators (WDI) uses statistical data to measure progress of development. The WDI includes more than 800 indicators in more than 90 tables organized into 6 sections: World View, People, Environment, Economy, States and Markets, and Global Links (World Bank, 2009). The World Bank’s data group works with data that come from statistical systems of member countries. Its purpose is to help developing countries improve the capacity, efficiency, and effectiveness of their national statistical systems. Without such data, it is impossible to develop effective policies, monitor the implementation of poverty reduction strategies, and monitor the progress toward global goals. (World Bank, 2009). The World Bank recognizes that good data set baselines, identify effective public and private actions, set goals and targets, monitor progress, and evaluate impacts. Reliable data are essential tools of good government and help to direct participation in the development process (World Bank, 2009).

CHAPTER 3 - Methodology

The method used to create the indicators was a content analysis of data gathered from three separate sources of information. First, data was gathered from interviewing emergency response stakeholders. Second, data was drawn from reviewing literature from disciplines that deal with the impact of emergency response on pet owners population and their animals. Third, data was pulled from congressional considerations of the PETS Act and animals in emergency response. Each data set was categorized into three tables (see the Appendix): Table A1. Interview Response Data Matrix; Table A2. Literature Review Data Matrix; and Table A3. Congressional Considerations Data Matrix.

This research was conducted to identify economic and public health indicators that would quantify the effect of actions taken to rescue and respond to the needs of pet owners and companion animals in emergency disaster situations. The 2006 PETS Act requires the State and Local Emergency Preparedness Operational Plans to include the needs of individuals with household pets and service animals following a major disaster or emergency. As of now, there has not been any way to measure the effectiveness of this law or the plans required by the law.

The PETS Act was enacted into law on October 6, 2006, one year after Hurricane Katrina. As a result, communities and states are required to include pets in their emergency response plans. This idea is relatively new, and it is important to know if states and communities are effective in saving human and animal lives by incorporating pets in response plans. It is also important to know if the act is effective in modifying the actions of first responders.

State and local emergency responders, first responders, and policy makers can use these indicators to gauge the effectiveness of their plans. These indicators can provide a means to make improvements to plans and actions if necessary. By interviewing all stakeholders involved in emergency response to pet owners and their animals, compiling data from the members of Congress associated with the passage of the PETS Act, and researching the literature, a common language was formed which led to the indicators. Questions were open-ended, allowing a free

flow of information. Stakeholders were encouraged to speak freely, from their perspective, about their role in emergency response where animals were concerned.

Participants

Twenty-one professionals represented the following organizations: Kansas Veterinary Medical Association, Kansas Animal Health Department, Kansas Emergency Management, the American Red Cross, and the Department of Homeland Security/Federal Emergency Management Agency. Those interviewed included veterinary professionals, law enforcement officers, animal control personnel, members of rescue groups, members of wild life rescue groups, local volunteers, and individuals from other agencies involved in animal emergency response. A complete list of those interviewed is found in Table 3.1 page 23. All participants were guaranteed anonymity; only agency name and location are provided. Although most interviewees were based in Kansas, I talked with several persons affiliated with agencies across the U.S. Therefore the results are not state specific.

Table 3.1
List of Organizations of Participants Interviewed

Organizations
<ul style="list-style-type: none"> • Alabama Department of Agriculture, Director of Emergency Programs • American Red Cross, Midway-Kansas Chapter, Wichita, Kansas • Animal Control Officer, Sedgwick County, Kansas • Bladen County Animal Response Team Coordinator, Elizabethtown, North Carolina • Bureau of Public Health Preparedness Kansas Department of Health and Environment • Code 3 Associates, Inc. Non-profit 501©3, Erie, Colorado • Department of Health and Environment for State of Kansas • Director of Emergency Programs Alabama Department of Agriculture • Director, Animal Emergency Management Program, Colorado Veterinary Medical Foundation • Doctors of Veterinary Medicine, Manhattan, Topeka, and Wichita Kansas and Grandview, Missouri • Emergency Management, Grant County • Emergency Medical Services (EMS) Sedgwick County, Kansas • Extension, Ashe County, North Carolina • FAS/USDA Florida Dispute Resolution Coordinator • FEMA Regional Voluntary Agency Liaison FEMA Region VII, Kansas • Humane Society, Inc., Lawrence Kansas • Kansas State Animal Response Team for State of Kansas • Kansas State University, Pet Health Center Assistant Professor Veterinary Medical Teaching Hospital, Manhattan, Kansas • Kingman Pratt Area Animal Response Team, Cheney, Kansas • Medical Reserve Corps, Kansas City, Missouri • North Carolina State University, College of Agriculture and Life Sciences North Carolina Cooperative Extension, Bladen County Center, Extension Agent, Livestock • North Carolina State University, North Carolina Cooperative Extension Agricultural Extension Agent – Livestock, Richmond County Center • Pennsylvania State Animal Response Team Executive Director • Senior Management Analyst II ESF-17 ECO Division of Animal Industry • US Department of Health and Human Services, Region VII, Kansas City, Missouri • Veterinary Medical Reserve Corps, Oklahoma

Procedures

Interviews were conducted at the second annual conference of the Kansas State Animal Response Team (KSSART) on September 18-19, 2009 held at the Ramada Inn in Topeka, Kansas. KSSART was developed in 2004 by a Steering Committee consisting of members from the Kansas Veterinary Medical Association, the Kansas Animal Health Department, Kansas Emergency Management, US Department of Agriculture-Animal and Plant Health Inspection Service (USDA-APHIS), the Department of Homeland Security/Federal Emergency Management Agency, the National Agricultural Biosecurity Center, and the Midwest Response Disaster Team (Kansas State Animal Response Team, SART, 2009).

This particular event was chosen for the interview process because all stakeholders were present at one location at one point in time. The Kansas State Animal Response Team (KSSART) is a statewide initiative aimed at prevention of, response to, and recovery from animal-related disasters in Kansas. It is a cooperative effort among Kansas veterinary professionals, law enforcement officers, animal control and rescue groups, wildlife rescue groups, and local resident volunteers. From this organization, the list of emergency responders was created in order to conduct the research.

Survey Design and Administration

A 27 item questionnaire was developed and used as a guide to interview all participants. The first set of questions established if the participant had been involved in emergency situations, if they were first responders in the field or if they held some other role. The second set of questions asked if participants or their organization or department worked with animals or families with pets. The third set of questions asked participants to describe their role in the emergency response process. Finally, the fourth set of questions asked participants about indicators of success of emergency management efforts related to pet owners and their pets.

The target participants were interviewed at the KSSART workshop. Some interviews were digitally recorded and later transcribed. Other interview responses were written down in note format for later analysis. Each interview took between 15 minutes and an hour, depending on each participant's desire to discuss his or her professional experiences in the field. Table 3.2 is an example of the interview questionnaire.

Table 3.2
Interview Questionnaire

Question		Response		
1.	Organization or department name.			
2.	Do you or your organization play a role in emergency response?			
3.	What is your role in emergency situations?			
4.	Do you or your organization work with animals or families with pets?			
5.	Describe your role in the process.			
6.	What would you consider to be indicators of success?			
7.	How would you define or measure the time-money value invested in helping to rescue and provide for pets and their owners?			
8.	From your perspective, what factors could be used to measure the progress, or lack of progress, toward saving the lives of pet owners and their pets?			
9.	What are the measurable indicators that gauge the improvement in emergency response plans and actions that help save lives of pet owners and their pets?			
10.	What factors do you think will improve emergency response plans?			
11.	Who or what exists now that defines the scope and objectives in emergency response plans?			
12.	Are you in the field during emergency?	N/A	Yes	No
13.	Have you been involved in emergency response situation?	N/A	Yes	No
14.	If yes, what type of disaster?			
15.	How many people in your organization would be involved in emergency response?			
16.	What is cost to public, tax payers, or your organization for your services in event of emergency response? (Estimates are ok).			

Table 3.2
Interview Questionnaire

Question		Response		
17.	Who benefits from your emergency response services?			
18.	For what number of households are you responsible in event of disaster response?			
19.	What is cost of boarding pets with you or somewhere you might take animals?			
20.	If animals must be transported, do you provide transport or who do you contact?			
21.	Can I contact you again for further interview questions on this topic?			
22.	Does your community's Emergency Response Plan include pets?	Yes	No	N/A
23.	Do you think by including pets in emergency response plans will help save lives? (please elaborate)	Yes	No	
24.	What policy (local or national) changes are needed to improve the health, safety, and welfare of pet owners and their pets?			
25.	What changes have saved lives of pet owners and their animals?			
26.	What type of indicators would you look for to prove there is public health or economic value of including pets in emergency disaster plans?			
27.	Please list any other comments you feel might benefit the measurement of success of pets in emergency response plans:			

Data Organization

Three matrices were developed to categorize data collected from the interviews, data from the literature review, and data from congressional considerations. Each matrix was divided into three sub categories: 1) Participant Category, 2) Economic Consideration Category, and 3) Public Health Consideration Category. Some data fell into more than one category. For example, the need for co-located shelters in a community falls under both the economic consideration and the public health consideration category. Co-located shelters accommodate both pet and owner at the same shelter. Co-located shelters fit under the economic consideration because they allow the pet owner to be in close geographic proximity to his or her animal. This

reduces the pet owner's expense to get the animal to a shelter prior to, during, or after a disaster. It also reduces the emergency responder's expense to transport the animal to a shelter that might otherwise be a long distance from the disaster victim's shelter. Co-located shelters also fit under the public health consideration because the pet owner does not have to travel a long distance under dangerous circumstances to find shelter for the pet. Also, there is less chance of pet owner being in harm's way when visiting the pet. The pet owner's mental health is more stable knowing the pet is nearby in case they need to feed, water, or care for the animal. Pet owners are less panicked knowing the pet is safe and secure. The risk to rescue workers is also reduced when pet owners have their pets in co-located shelters because workers do not have to rescue the pet owners who are trying to travel across a long distance during or after a disaster. Therefore, co-located shelters fall under two categories, economic and public health.

Data Analysis

After all data was categorized into one of the three appropriate matrices, the data was analyzed. Characteristics of the qualitative and descriptive information from the three tables were compared. Patterns and similarities were sought among all three matrices. Data that was repeated in any of the matrices was considered as an indicator. Results are discussed in Chapter Four.

CHAPTER 4 - Results/Discussion

Indicators were created from data that repeated itself in any of the three matrices then placed in either the Economic Indicator Matrix or the Public Health Indicator Matrix or both. Refer to Chapter 5, Table 5.1 Economic Indicator Matrix or Table 5.2 Public Health Indicator Matrix.

Data was collected from the interviews, literature review, and considerations from Congress. Interview results will be discussed first, next results from the literature review, and last data from Congress. The three matrices are located in the Appendix, labeled Table A1, A2, and A3 respectively. The data results are the nineteen indicators that are listed in Table 4.1. For a complete list of all interview responses refer to Table A1 in Appendix.

Table 4.1

Nineteen Indicators of Success, listed in numerical order according to number of responses.

Indicators	Number of Responses
1. Credentialing	12
2. Co-located Sheltering	11
3. Raising Public Awareness	10
4. Coordination	8
5. Standard Operating Procedures	7
6. Tracking (Victims, Pets, and Volunteers)	6
7. Exercising the Plan/Drills	5
8. Communication	5
9. Cooperation	5
10. Fundraising	5
11. Developing Needs Assessment	3
12. Transportation	3
13. Connecting with the victims	2
14. Reunification	2
15. Rescue	2
16. Removing dead animals	1
17. Government support	1
18. Equipment	PETS Act
19. Essential Needs	PETS Act

Criteria used for each of the 19 indicators came from Chang's (2010) research. Chang stated that

...a useful indicator should meet at least three criteria: (a) its definition should be universal (that is, meaningful and consistent...); (b) data should be readily available (that is routinely collected and published as consistent time series, at least annually), and (c) measurement should be standardized (that is, allow meaningful comparisons across space and time) (Chang, 2010, p. 307).

The following paragraphs describe the 19 indicators that were created from the respondents interviews. Each indicator is defined and followed by examples of its use measuring, assessing, guiding, or monitoring the outcomes of evacuating pets in state or local emergency preparedness operational plans.

Credentialing

Twelve participants determined that credentialing was an important indicator of a program's success. Credentialing is "having skillful volunteers on an emergency scene and knowing what their skills are. This helps responders make the most efficient use of their skills to help victims" (Kingman Pratt Area, Table A1). In the past "there has been a real lack of accountability" (Code 3 Associates, Table A1). There is a real need for "credentialing and tracking volunteers and animals" (Code 3 Associates, Table A1).

There has been a lack of creditability of volunteers wanting to help. First responders and Code 3 have not known what people's skills are or what they are trained to do. This is a logistical problem. There has also been no way of tracking volunteers, who is where, doing what job or with what animals, how many, where the animals are going, or who they belong too." (Code 3 Associates, Table A1)

Working within the local emergency management systems means that responders must have an understanding of the Incident Command System used by emergency responders and FEMA. In addition to requiring all CART (Community Animal Response Team) field responders to complete training in [FEMA's Incident Command System: Introduction to Incident Command] (IS100), [Single Resources and Initial Action Resources] (IS200), and [Introduction to National Incident Management Systems (NIMS)] (IS700). We continually emphasize training in animal first aid, shelter management, animal handling through tabletop exercise, classroom instruction and field

exercise. KS SART is also developing credentialing standards for CART managers and volunteers which will help us to properly staff our shelters with trained volunteers and standardize the credentialing for shelter staff. (Table A1. Interview Response Data Matrix)

Data could be gathered to assess the abilities of volunteers. The number of credentialed volunteers within a certain geographic location could be determined, and each credential of each volunteer or first responder could be recorded. By assessing the credentials of all first responders and volunteers in one community and or organization, then comparing that to another community's first responders and or volunteers, the number of qualified volunteers throughout a community, county, or state could be determined.

Credentialed volunteers could then be tracked over time to ensure their qualifications are current. Tracking credentials ensures current training and continuity within an organization and among emergency response organizations. Overall tracking and assessing credentials of volunteers will improve performance.

The data could be readily collected and made available on a web site or database. Organizations would be prepared to respond with the best qualified volunteers possible. The next indicator is co-located sheltering.

Co-Located Sheltering

Co-located sheltering was reported an indicator of success by eleven participants. Human shelters are located close to the animal shelter. "Co-located shelters are ideal: they put people close to their pets which assist in not only caring for animals but for the mental health effects and logistical assistance for shelter workers" (Table A1, Emergency Programs Alabama Department of Agriculture). "Co-located shelters are needed to place people near their animals." (Table A1, Red Cross Midway Kansas)

Emergency preparedness operational plans could include having one co-located animal shelter per human shelter based on that community's population size. Although the role of the

Red Cross is to provide “disaster sheltering...for as many people as possible in a safe environment,” they also help to support pet sheltering initiatives (Pet Sheltering, 2007, p. 1).

Due to health and safety concerns, the Red Cross does not allow animals other than service animals inside of its disaster or evacuation shelters. In addition, the Red Cross does not assume primary responsibility for providing alternative arrangement for pets. The Red Cross does, however, recognize and appreciate the importance for pets to their owners...[Red Cross's] role, as the service provider to the general public, is to ensure that pet sheltering initiatives and plans developed at the local, county, or state level are integrated to the greatest extent possible into [their] disaster service delivery. Although [they] cannot host pets within [their] shelters, [they] can support the proper local agencies that specialize in animal care in their role to shelter and ensure the safety of pets (Pet Sheltering, 2007, p. 2).

Public facilities such as public schools, libraries, stadiums, and or colleges often serve as emergency shelters. Approval from public officials would need to be obtained.

The Red Cross could be the organization that serves as the clearing house for communications with these public locations for pet sheltering prior to, during, and then after disaster.

The next indicator is raising public awareness. Much of emergency response planning requires communication and cooperation among many specific public and non-profit organizations. Raising public awareness is the next indicator of success.

Raising Public Awareness

Ten participants responded that raising public awareness should to be an indicator of success. It is a key indicator of a successful emergency preparedness plan. The following is a list of specific areas, although there are many more that the public needs to know in being prepared for a disaster:

- Location of human and animal shelters
- Preparing themselves and their pets prior to disaster
- Where and when to evacuate prior to disaster
- Who to contact in the event of disaster
- What are the risks of evacuations failure
- Importance of non-profit organizations that assist in emergency response

Representatives of the Lawrence Humane Society thought that raising awareness for community support is important as well as raising awareness of the need for funding (Table A1, Lawrence Humane Society).

Without community awareness and support it is almost impossible to obtain funding for equipment. Without funding, there can be no equipment. Building an inventory of resources is one of the hardest jobs of a CART. Identifying needed equipment to cover a multitude of disasters and numerous species of animals from dogs and cats to pigs and ferrets can be a daunting task. Pre-disaster funding for CARTs is primarily obtained through the private fund raising efforts of each team. (Table A1, Kingman Pratt Area, ART)

Government budget cuts have made public funding almost non-existent. We are relying primarily on private solicitations, grant applications, and fund raising activities to promote our organization in the local area and raise funds for educating and equipping our volunteers. Building a network of CARTs throughout the state will also help to ensure that resources are available through a resource sharing system. (Table A1, Kingman Pratt Area, ART)

Another need for raising public awareness is “getting people to evacuate during an emergency” (Table A1, North Carolina SART). This need was shown over and over throughout the newspapers and media. If pet owners were well informed of where to take their animals, if transportation was available, pet owners might be more inclined to evacuate. The Emergency

Coordinator Officer of Florida stated, “Public awareness and education make citizens aware of their responsibility to care for their animals before, during and after an emergency” (Table A1, Emergency Coordinating Officer, Florida). Legislation like the PETS Act, helps increase the awareness of lawmakers and emergency officials to recognize what animal advocates already know, that pets figure strongly in a person's decision to evacuate to safety. And we certainly want to encourage our citizens to do just that. (Table A3, Chandler)

There are many areas of concern when assessing public awareness. Those mentioned above are only a few. Raising public awareness is a tool that could be used to assess specific areas in emergency preparedness plans. This indicator could also serve as a guide and a tool for monitoring the level of public awareness of specific areas of concern for communities. Coordination is the next indicator.

Coordination

Coordination as an important indicator was identified by eight first responders. The success of any emergency preparedness operational plan depends on coordination among the agencies involved in emergency response. The results of and failures during Hurricane Katrina can be attributed to lack of coordination among agencies. Coordination is a key factor in measuring, assessing, guiding, and monitoring any emergency preparedness plan.

One example of measuring coordination in state or local emergency preparedness operational plans is to exercise the plan. Involve all players and have drills to involve the community on an annual or semi-annual basis. This will give immediate results as to the level of coordination between the community and agencies. Based then on the results of the drills, the plan can be modified according to the deficiencies found.

Three key points regarding coordination by Alabama’s Director of Emergency Programs. First, “All efforts have to be coordinated to allow FEMA Stafford Act reimbursement of expenses and volunteer hours.” Second, “Utilization of a FOAD group to coordinate volunteer responders must happen to capture all of the hours put in the mission.” Third, “Coordinate local

efforts together to form one coordinated response” (Director of Emergency Programs, Alabama Table A1).

Another key point made by Alabama Director of Emergency Programs was, “NGOs from different organizations working together under and in same environment and conditions to complete the mission and under the auspices of a state or local government entity shows good planning and success.” Also, “Coordinate[ing] with state and local veterinary medical associates and veterinarian schools to provide veterinary advice and care during planning process as well as the response” is critically important (Table A1).

First responders are required to train for all hazards. First responders have to train for, CBNRE [chemical, biological, radiological, nuclear, equipment]. FEMA requires the all hazard model, which require that all parties play. Because, you are saying you in law, you in EMS, you in fire, you in Emergency Management, now all have to be jacks of all trades and solve everything. You don’t have the expertise, there aren’t enough of us, and there is no way. (Table A1)

Reiterating an important point, coordination is a key element in measuring, assessing, guiding, and monitoring state and local emergency preparedness operation plans. Having a plan and practicing it will bring immediate results to the emergency planner’s attention. The results will indicate where, who, and what communication breakdown has occurred, and then planners can better assess the plan and make changes to improve performance. This indicator is applicable at the local, county, or state level. The next indicator is standard operating procedures.

Standard Operating Procedures

Creating standard operating procedures (SOP) was mentioned by several responders. The Grant County, Kansas Emergency Management Coordinator presented the need to develop standard operating guidelines so that first responders can respond to situations where animals are concerned (Table A1, Interviews).

The executive director of the Kingman Pratt Kansas Animal Response Team also discussed the need to develop an SOP. A CART would use the SOP for mobilizing, operating and demobilizing a temporary animal shelter. The SOPs would provide guidelines for all phases of emergency operations including communications, logistics, planning safety, volunteer coordination, and shelter operations (Table A1, Interviews).

Creating standard operating procedures is an excellent tool and great indicator as to how prepared any agency or organization is. The SOP will be an ever changing document that can continually be monitored and assessed as the needs of any community change regarding pets and emergency preparedness. Tracking is discussed next.

Tracking

Six responders classified tracking of pets and volunteers as important indicators of success. Hurricane Katrina was again an example of the failure to track pet owners and pets, said a representative of Sedgwick County EMS.

If I take their animal, what do I do with their animal? If I split them apart, and then what, who do I give it to? How does she know that she'll get it back. How does the next person know that this is her animal? I've got patient tracking and animal tracking issues to deal with. Many times people won't accept care because of that same attitude. (Table A1, Interview)

Both animals and volunteers need to be tracked. A Sedgwick County Animal Control Officer reported, "There has also been no way of tracking volunteers, who is where, doing what

job or what animals, how many, where the animals are going, or who they belong too” (Table A1, Interview).

State and local governments that receive evacuees from areas declared a major disaster or an emergency may seek reimbursement for eligible costs related to cataloging and tracking system for pets. The reasonable costs (to the Applicant) for tracking animals at congregate pet shelters for the purposes of reuniting them with their owners are eligible” for reimbursable expenses (Table A2, Literature).

"Many lessons were learned since Hurricane Katrina, and pet owners have continually expressed their appreciation to our Shreveport shelter staff for the organized and efficient way they registered and kept track of hundreds of pets," said Dr. Becky Adcock, LSARTs deputy director (Table A2, Literature).

Tracking can be assessed by having a system in place in the event of disaster. An agency needs to be in charge of the triage station. Another agency or volunteer needs to be responsible for intake of the pets and the tagging of the pet to the pet owner. A system that will enable an agency or volunteer to contact that pet owner to retrieve his or her pet at a later date is necessary. Tracking as an indicator can guide emergency planners in the process of creating a system of tracking pets and their owners. The next indicator is exercising the plan or drill (Table A1, Interview).

Exercising the Plan or Drills

Regular exercises or drills are important activities in emergency response training. So many stakeholders are involved in the emergency response plan today that coordination is essential. The number of non-traditional responders has increased over the years, and everyone needs to know the plan and needs to know their role. Exercises and drills can mean life or death to all involved. The Grant County Emergency Manager stated, “If a hazard doesn’t happen for 15 years, the plan needs to be tested, people need to know how to use the plan” (Table A1, Interviews).

The EMS participant stated, “Plans tend to sit on shelves and be dusty and vague”: (Table A1, Interviews). In other words, the plan is only as good as the action it directs individuals to take. If the plan is not exercised, then it is unknown as to if the plan will work, therefore test the plan to know the results. Exercising the plan as an indicator will often measure the quality and efficiency of an emergency preparedness plan and give immediate results. Using this indicator, emergency planners can measure, assess, guide, and monitor the plan and with the results will have accurate data as to what needs to change in the plan. Another indicator is communication.

Communication

Communication involving multiple organizations was named as a key factor. The lack of communication between agencies, victims and survivors was an indication of an emergency preparedness failure. Communication can best be measured, assessed, or monitored by having exercises or drills on a regular basis. Communication between agencies and the community saves lives.

Proper communications of the plans of what to do, with what, when, and by whom will engage not only the response community responsible in many cases for carrying this out but also engage those who will be helped, in this case the pet owners...Also, communicating what is the plan and how it will be carried out will allow for comment by those folks we intend to help which will further improve the quality of those plans and their operational capability. Frequency of the message is about getting the information to the folks. If as an emergency manager, planner, responder you only engage with citizens during times of emergency or every few years when the plan has to be redone your chance of true communication is very limited and people won't care what you're doing. If you get your message out to them more often and personalize it, they will be supportive of your efforts and the project has more opportunity for success.” (Table A1, Bureau of Public Health Preparedness Interview)

A representative of Code 3 Associates stated, “Communication, coordination, and cooperation is key in any emergency response” (Table A1, Interviews). Communication can easily be measured, assessed, and monitored through the process of testing the emergency preparedness plan or having drill exercises involving all players. Cooperation is another key element in disaster response.

Cooperation

Cooperation is another key element during disaster response. Cooperation among all agencies is required for any emergency preparedness plan to be a success. The lack of cooperation between government agencies, non-profit organizations, and the volunteers during Katrina was an emergency preparedness failure.

“The SART model fosters multi-agency cooperation to manage statewide response mechanisms by region and county” (Table A2, Literature Review Data Matrix, AVMF). The AVMF created a \$6.5 million disaster plan that brought together a wide array of agencies and individuals to create a sense of common commitment to emergency issues, “rather than segmented ownership” (Table A2, Literature Review). Cooperation between teams and the community is an important factor when responding to animals’ owners and their pets (Table A1, Interviews Management Grant County).

Cooperation between agencies can be measured during the early stages of the emergency preparedness plan, just by contacting all agencies involved gathering data from each organization. If agencies fail to provide data in these initial preliminary stages, the emergency planner will have an indication of the level of cooperation they are dealing with initially.

Cooperation during the early stages of emergency planning and during a drill exercise can reveal much about the level of cooperation of each agency. The planner can better assess the need for change or the data can serve as a guide to what agencies may need to be changed in the plan. Fundraising was voted to be an important indicator of success.

Fundraising

Fundraising is necessary for most all non-profit organizations, especially those involved in animal response. For example equipment is absolutely necessary for Code 3 Associates, who are with a 501c3 nonprofit organization, to function. This takes money. Code 3 Associates use a

big animal rescue truck which they refer to as BART. The truck is equipped with a veterinary triage and examination center, stainless steel cages, surgical and clinical supplies. BART contains an extensive inventory of equipment and supplies including

...a 4x4 support vehicle; two-horse trailer (both ride in the trailer); 3 boats and motors for various uses, personal rescue equipment used for wild land fires, water rescue, low-angle rope and ice rescues; 125 cages and carriers for companion animals; portable corrals for livestock and wildlife; human animal traps and capture equipment; two generators, one on-board for power to the sleeper and trailer and one as a portable power source; portable water tanks; a large animal rescue glide system; and numerous other items designed for safe search and rescue and care of all types of animals. Perishable items such as animal feed and medical supplies are stocked at time of deployment. (Code 3 Associates, 2008)

Code 3 Associates provide “technical animal rescue and recovery to communities affected by man-made or natural disasters” (Code 3 Associates, 2008). They provide services free of charge to communities upon official request for assistance from the local authorities in charge of animal rescue operations during a disaster. Funding is essential to provide search and evacuation of animals, veterinary triage and evaluation, transportation of animals, reunification of animals with their families, and many other services.

All SARTs, CARTs, and ARTs are typically 501(c)3 public charity organizations. Many who volunteer for these organizations need equipment to help in the rescue and response of animals in disaster. The director of the Kingman Pratt CART discussed the need for establishing public awareness of and support for their financial need.

Establishing fundraising without community awareness and support makes it almost impossible to obtain funding for equipment. Without funding, there can be no equipment. Building an inventory of resources is one of the hardest jobs of a CART. Identifying needed equipment to cover a multitude of disasters and numerous species of animals from dogs and cats to pigs and ferrets can be a daunting task. Pre-disaster funding for CARTs is primarily through the private fund raising efforts of each team. Government budget cuts have made public funding almost non-existent. We are relying primarily on private solicitations, grant applications, and fund raising activities to promote our organization in the local area and raise funds for educating and equipment our volunteers. Building a network of CARTs throughout the state will also help to ensure that resources are available through a resource sharing system. (Kingman Pratt ART, Table A1)

Fundraising is a key indicator of a successful emergency response plan for many non-profit organizations that are involved in evacuating pets during disaster. It will determine the type and amount of equipment that can be purchased.

Fundraising indicators are easily measured through the funds received. This indicator is easily monitored and can indicate changes that might better serve their organization and increase the amount of funds earned. Developing a needs assessment is an important indication of a successful emergency response plan.

Developing Needs Assessment

Developing a needs assessment was a consideration three participants said was an important indicator. In the context of emergency response, “performing a needs assessment determines the risks and threats and determines the needs of a community to help mitigate risk to humans” (Table A1, Interviews, Emergency Management). Grant County’s Emergency Management found that co-located or co-habitational shelters are needed in their county to be prepared for disaster (Table A1, Interviews).

Needs assessments allow communities and organizations to determine if a community is prepared for a disaster according to their demographic information and population. “Not any one agency has all the resources” (Table A1, Interviews). Each agency should conduct a needs assessment to be better prepared. (Table A1, Interviews). All agencies and all players must contribute in times of disaster. “No one can respond alone” (Table A1, Interviews). Therefore, each organization must assess its resources and evaluate possible solutions to be better prepared. (Table A1, Interviews, Management, Grant County).

A needs assessment determines the strength or deficiency of all plans of an organization. The needs assessment is an excellent tool for evaluating any emergency preparedness plan and to measure its effectiveness currently. The next indicator is transportation.

Transportation

Lack of transportation for pet owners and their pets certainly increased risk of injury and loss of human life during Hurricane Katrina. Three participants stated transportation was crucial to disaster preparedness. “The need to provide transportation and a place to shelter pets, Cardona said, “was the most important lesson learned from Katrina, where thousands of animals were left stranded and many people had refused to evacuate New Orleans without their pets” (Sacks, 2008).

Cities that include transportation in their emergency response plans increase the likelihood of people evacuating prior to disaster. “If transportation was available, or if pet owners were aware of places that would accept animals, pet owners might be more inclined to evacuate” (Table A1, Emergency Coordinating Officer, Florida).

“The Assistance Policy 9523.19 requires household pets and service animals will not be separated from their owners, will ride on any form of transportation...and will stay, at the owner’s cost in a shelter” (Public Assistance Grant Program Briefing, 2008). Hoping to avoid a repeat of Hurricane Katrina, when thousands of animals were killed, Gulf Coast authorities ...helped get pets out of Gustav's way. Pet owners and their pets were handled well during Gustav...because pet-friendly evacuation centers and public transportation were provided for those without means to drive out of disaster area. It was reported that residents who had their own transportation were less likely to leave animals behind” (New York Daily, 2008)

Transportation is a reimbursable cost for communities considering public transportation for pet owners and pets. “Transportation of evacuees' household pets and service animals to congregate shelters from pre-established pickup locations is an eligible expense when the means of transportation used is the most cost-effective available” (FEMA: Eligible Costs, 2007).

Transportation is an indicator of success in most emergency preparedness plans. During Hurricane Katrina, New Orleans lacked appropriate or adequate transportation for pet owners

and their animals. If emergency planners use this indicator to assess transportation needs and type, the effectiveness of emergency preparedness and response will improve in the long run. The following indicator is connecting with the victims.

Connecting with the Victims

Research shows there was a real lack of personal concern for victims after Hurricane Katrina. “Connecting with the outside, there has been a real loss of personal touch and empathy to the victims of a disaster. First responders have been very unsympathetic to people who’ve just been through a flood and lost everything they’ve worked for” (Animal Control Supervisor/Overland Park Police Department, Table A1).

Two participants stated that connecting and understanding the needs of the victims of disaster is an indicator of a success. After disaster victims suffer a sense of loss sometimes of everything they owned and worked for. Maybe all that is left is their animal. If first responders, emergency workers, and rescue workers treat them with empathy the healing and recovery process can begin.

Connecting with the victims is a qualitative indicator and hard to measure with numerical data. However, measurements could be made by observation of volunteers and responders during drills and by evaluating the response after disasters. This would help to assess their ability to connect with the victims. If the results are insufficient and performance is not meeting standards, volunteers and emergency responders could receive more training on how to better assist the victims of disaster. This would improve effectiveness of emergency preparedness where pet owners and pets are concerned. Reunification is the subsequent indicator.

Reunification

Reunification brings the pet owner together with their pet after disaster. “Pet owners who were evacuated on transportation provided by the government were photographed with their animals, and both were given wristbands with the same identification number. Smaller animals

rode on the laps of their owners, and larger ones rode in air-conditioned trucks as they were bused to animal friendly shelters throughout the region” (Sacks, 2008).

Reunification requires creating a system that ensures the pet and the pet owner will be reunited. By including it in the state and or local emergency preparedness plan, it then can be measured, quantitatively and qualitatively.

Creating performance evaluations of the reunification process and system itself can be a tool for evaluating the effectiveness and efficiency of the process. The measuring, assessing, and or monitoring of this indicator can occur during the exercise of the reunification process, and also prior to, during, and after disaster by collecting data through an evaluation process and measure the results. The data will indicate where the reunification process can be improved if deficiencies exist in the plan. Rescue indicator is next.

Rescue

The rescue of pets and companion animals must be included in emergency preparedness plans, or agencies could be denied FEMA money if the organization is found noncompliant. Research shows that pet owners value their animals' lives and are unwilling to evacuate if their animals are denied rescue, shelter, or transportation to a safe area. Including the rescue of pets in emergency response plans is an indicator of success according to all the responders interviewed at the KSSART.

Laying out the logistics of the rescue process in the emergency preparedness plans is an indicator of a successful plan. The details of how, when, where, by whom, and by what means pets and pet owners will be rescued is measurable. Evaluating the details and practicing the plan will give a clear assessment of the current plan and in how it might need to be changed to improve the result. The rescue indicator can be monitored continuously if evaluated on a systematic and regular basis during drills and prior to, during, and after disasters. Systematic consistent data can be collected about the rescue. The next indicator is removing dead animals.

Removing Dead Animals

One participant stated that "removing dead animals quickly for pet owners and rescuers" is an indicator of success. During Hurricane Katrina thousands of animals laid dead. Many pet owners left their pets behind because they thought they would be back after a few days. Other owners were forced by government policies to abandon their pets. Pet owners returned to find their house destroyed and their pet lying dead. The sooner the dead animals are removed the sooner the healing process can begin for victims.

Removing dead animals is a public health value. Including it on a performance evaluation of any organization could be used to measure the effectiveness of that organization. Measuring government support as in indicator follows.

Government Support

The federal government did not support the rescue of pets during an emergency or disaster prior to 2006. This was evident during Hurricane Katrina. Now that Congress has passed the PETS Act, compliance with this law includes pets in emergency response plans. Organizations can use performance evaluations to ensure compliance with the PETS Act and make necessary changes should there be items not included in their emergency preparedness plans where pets and pet owners are concerned. The next indicator is equipment.

Equipment

The equipment indicator could be measured, assessed, and monitored in a number of ways in terms of pet and pet owner rescue. Simple accounting of costs and expenses relating to equipment needed for all the various facets of pet rescue and pet owners can be measured, assessed, and monitored. The equipment could be vehicles, cages, generators, animal rescue equipment, surgical equipment, animal food dishes, leashes, microchips. The list could be quite long and be quite different depending upon the organization and its role and function in emergency preparedness and pets and pet owners. Lastly, essential needs are the remaining indicator.

Essential Needs

Meeting essential needs indicates a successful emergency preparedness operational plan. The PETS Act authorizes FEMA to provide essential needs for individuals with household pets and service animals, and to the household pets and animals themselves. Therefore, it is imperative the essential needs factor be measured, assessed, and or monitored in all emergency preparedness plans.

The essential needs may differ from agency to agency according to the agencies, mission, function, and role in evacuating pets and pet owners. These indicators may be different but can

be measured quantitatively and qualitatively. Data regarding the essential needs would be provided according to the mission of the agency and analysis of that data, monetary value and the quality of the essential needs. While ensuring compliance with the pet act, this indicator can be used to improve emergency preparedness plans should there be a deficiency.

Conclusion: Indicators

After researching the use of indicators in many disciplines and the importance of such measurements, the Medical Reserve Corps (MRC) appeared to have the best fit matrix. Both the MRC and the emergency animal response team use volunteers. The MRC uses a performance measurement matrix for training their volunteers and measuring where they are going and how they will get there. Broadly defined, performance measurement involved collecting and analyzing real data to determine whether an MRC unit had achieved, or made progress toward achieving, its goal(s) and objectives.

The MRC approach can be applied to caring for pets in emergencies. Although, including animals in emergency response plans is relatively new, it is important to know if local communities are making progress towards saving human and animal lives in emergency situations. CARTs, SARTs, and KSSART were formed for this very purpose. The intent of using the indicators is to answer the following type of questions: Are these programs meeting their goals and objectives? How well are these organizations performing? The many stakeholders that work together to respond to emergency situations to save lives need to be able to measure their effectiveness. How well are they doing?

The MRC Evaluation matrix research indicates that, leaders can use this information as a basis for future strategic planning activities and to demonstrate the value of their CART, SART, or KSSART to community partners, funders, government agencies, and volunteers. The two matrices of indicators are economic indicators and public health indicators. They measure the general operations of an ART, CART, SART, KSSART, EMS, Animal Control Unit, Department of Health and Environment, Emergency Management, ARC, or Humane Society. The focus is on the ability of the unit to carry out its work and may entail examining whether the necessary inputs (e.g. funding, volunteers, and equipment) are in place to do what the unit has planned.

Many first responders discussed the need for co-located shelters prior to, during, and after disaster. The majority of the first responders was witness to and involved in the following disaster events in Kansas: (Table A1, Interviews).

- December 2007 Kansas Ice Storm
- July 2007 Coffeyville, Kansas Flood
- May 2007 Greensburg, Kansas F5 Tornado
- June 2008 Chapman, Kansas F4 Tornado
- May 1999 Sedgwick County Kansas F4 tornado
- April 1991 Wichita/Andover F5 tornado

Congress Results

The Disaster Assistance Policy 9523.19 (October 24, 2007) identifies the expenses related to state and local governments' emergency pet evacuation and sheltering activities that may be eligible for reimbursement following a major disaster or emergency declaration. FEMA personnel make eligibility determinations under the Public Assistance Program (FEMA: Eligible Costs, 2007). The following two areas, eligibility and congregate household pet sheltering, are two areas FEMA considers eligible costs that state and local governments may seek reimbursement.

Eligibility. State and local governments that receive evacuees from areas declared a major disaster or an emergency may seek reimbursement for eligible pet rescue, sheltering, and evacuation-support costs (FEMA: Eligible Costs, 2007).

1. State and local governments outside the designated disaster area may seek reimbursement under mutual aid protocols through the affected and supported state(s) (44 CFR § 206.223(a)(2)) (FEMA: Eligible Costs, 2007).
2. State and local governments are the only eligible applicants for sheltering and rescuing household pets and service animals. Contractors or private nonprofit (PNP) organizations that shelter or rescue household pets and service animals cannot be reimbursed directly as an applicant. However, contractors and PNPs can be reimbursed for sheltering and rescuing household pets and service animals through a state or local government, provided a written statement from an eligible applicant is presented in which the

applicant verifies that the contractor or PNP is performing or has performed sheltering or rescuing operations on the applicant's behalf and the expenses are documented (FEMA: Eligible Costs, 2007).

Congregate Household Pet Sheltering. State and local governments may conduct sheltering operations for pets directly, or may contract with other sheltering providers for such services. Eligible Category B congregate pet sheltering costs may include, but are not limited to, the *reasonable* costs for: (FEMA: Eligible Costs, 2007).

1. *Facilities* (FEMA: Eligible Costs, 2007).

- Minor modifications to buildings used for congregate household pet sheltering, if necessary to provide increased capacity for the accommodation of shelterees' household pets
- Facility lease or rent
- Increase in utility costs, such as power, water, and telephone
- Generator lease and operation (but not purchase)
- Shelter safety and security
- Shelter management
- Shelter and crate/cage cleaning

2. *Supplies and Commodities.* Eligible items are those needed for, and used directly on, the declared disaster, and are reasonable in both cost and need. Examples include: (FEMA: Eligible Costs, 2007).

- Food, water, and bowls
- Crates/Cages
- Pet transport carriers
- Animal cleaning tables and supplies
- Medication for animal decontamination and parasite control to ensure that the animal is not a health threat to humans or other animals

3. *Eligible Labor.* If the regular employees of an eligible applicant perform duties in direct support of congregate pet sheltering operations, any overtime pay related to such duties is eligible for reimbursement. However, the straight-time pay of these employees is not eligible. Regular-time and overtime for contract labor, including mutual aid agreements, specifically contracted to provide additional support required as a result of the disaster or emergency is also eligible for reimbursement (FEMA: Eligible Costs, 2007).

4. *Equipment.* The use of applicant-owned or leased equipment (such as buses, trucks, or other vehicles) to provide eligible pet evacuation or sheltering support may be reimbursed according to 44 CFR §206.228(1)(a) (does not include operator labor). The cost of leasing equipment may also be an eligible expense for reimbursement (FEMA: Eligible Costs, 2007).
5. *Emergency Veterinary Services.* For the purposes of screening the health of household pets and service animals, and assessing and treating minor illnesses and injuries, congregate pet shelters may be staffed with emergency veterinary teams. The following costs related to the provision of emergency veterinary services in a congregate pet sheltering environment are eligible for reimbursement: (FEMA: Eligible Costs, 2007).
 - Veterinary diagnosis, triage, treatment, and stabilization
 - Provision of first aid, including materials (bandages, etc.)
 - Medicine
 - Supervision of paid and volunteer veterinary staff
 - Vaccinations administered to protect the health and safety of congregate shelter and supporting emergency workers including but not limited to tetanus and hepatitis
 - Vaccinations administered to protect the health and safety of congregate shelter pets for transmissible or contagious diseases including but not limited to bordetella/kennel cough
6. *Transportation.* Transportation of evacuees' household pets and service animals to congregate shelters from pre-established pickup locations is an eligible expense when the means of transportation used is the most cost-effective available (FEMA: Eligible Costs, 2007).
7. *Shelter Safety and Security.* Additional reimbursable safety and security services may be provided at congregate pet shelters, based upon need (FEMA: Eligible Costs, 2007).
8. *Cleaning and Restoration.* The costs (to the Applicant) to clean, maintain, and restore a facility to pre-congregate pet shelter condition are eligible (FEMA: Eligible Costs, 2007).
9. *Removal and Disposal of Animal Carcasses.* The costs (to the Applicant) to remove and dispose of animal carcasses in a safe and timely manner and in compliance with applicable laws and regulations are eligible (FEMA: Eligible Costs, 2007).

10. *Cataloging/Tracking System for Pets*. The reasonable costs (to the Applicant) for tracking animals at congregate pet shelters for the purposes of reuniting them with their owners are eligible (FEMA: Eligible Costs, 2007).

Cost Estimating

When an applicant requests public assistance for disaster-related work, grant amounts are based on actual costs if the work was completed at the time of the request. However, for work that has not been completed at the time of the request, a cost estimate must be used. (FEMA: Cost Estimating, 2009).

Typically, these estimates are prepared using unit costs. With this method, the project is divided into elements based on the quantities of material that must be used to complete the work. For example, a culvert repair may involve linear feet of pipe, cubic yards of fill, and square feet of pavement. The estimate for each of these items is a cost per unit that includes all labor, equipment, and material necessary to install that item (referred to as an "in-place" cost).

FEMA has developed a list of unit costs for typical disaster repairs that may be used for estimating total costs. Alternatively, unit cost data developed by state or local governments may be used, if appropriate. Commercially available cost-estimating guides or data from local vendors and contractors may also be used. It may be necessary for FEMA to review cost data not based on established cost codes before approving a grant (FEMA: Cost Estimating, 2009).

For large or complex projects, it may be necessary for the applicant to prepare a detailed design of the restoration work before a viable cost estimate can be developed. In such cases, a grant for engineering and design services is approved first. Once the design is complete, a cost estimate for the work is prepared or actual bids for the work may be used as the basis for the grant (FEMA: Cost Estimating, 2009). Costs for managing a project may also be included if the project is sufficiently large or complex to require them. Most small projects do not require project management above the level of a first-level supervisor (FEMA: Cost Estimating, 2009).

“Some common methods of estimating projects are to calculate amount of time and estimates the cost of materials. This method may be used on projects that will be completed by your employees, using your own (or rented) equipment and material purchased by you (or from

your stock on hand). This method breaks costs down into labor, equipment, and materials. Costs must be thoroughly documented by payroll information, equipment logs or usage records, and other records, such as materials invoices, receipts, payment vouchers, warrants, or work orders” (FEMA: Cost Estimating, 2009).

FEMA published a list of equipment rates based on national data. These rates, or the applicant's established rates, whichever is lower, should be used to compute applicant-owned equipment costs. A listing of FEMA's equipment rates is included with the FEMA cost code listing. (FEMA: Cost Estimating, 2009).

Labor hours should be carefully matched with equipment use hours to ensure consistency. Remember that equipment not in use is not an eligible expense even if it is on-site (FEMA: Cost Estimating, 2009).

Competitively bid contracts are used to summarize costs for work that the applicant has obtained from an outside source. In general, contract costs are for work already completed, but in some cases may outline work that is just beginning or still underway. If work has not yet begun on a project, but a contract has been bid or let for the eligible work, then the contract price can be used (FEMA: Cost Estimating, 2009).

General types of contracts include unit price, lump sum, or cost plus fixed fee. Unit price is defined as contract for work done on an itemized basis with prices broken out per unit. Lump sum is defined as contract for work within a prescribed boundary with a clearly defined scope and a total price. Cost plus fixed fee is defined as either a lump sum or unit price contract with a fixed contractor fee added into the price (FEMA: Cost Estimating, 2009).

Time and materials contracts should be avoided but may be allowed for work that is necessary immediately after the disaster has occurred. If used, you must carefully document contractor expenses. A cost ceiling or "not to exceed" provision also should be included in the contract (FEMA: Cost Estimating, 2009).

For example, time-and-material contracts for debris removal should be limited to a maximum of 70 hours of actual debris clearance work and should be used only after all available

local, tribal, and state government equipment has been committed. These contracts should be terminated once the designated dollar ceiling or not-to exceed number of hours is reached. On occasion, they may be extended for a short period when absolutely necessary, for example, until Unit Price contracts have been prepared and executed (FEMA: Cost Estimating, 2009).

CHAPTER 5 - Creation of Performance Indicators

The purpose of this research was to identify indicators that evaluate the effectiveness of the PETS Act and programs governed by the Act in the areas of economics and public health. The nineteen indicators of success were based on the PETS Act, interviews of first responders, review of the literature, and considerations from Congress. These indicators were then placed in the Economic Indicator Matrix and the Public Health Matrix (see Table 5.1 and 5.2 respectively).

The PETS Act requires the state and local emergency preparedness operational plans to include the needs of individuals with household pets and service animals following a major disaster or emergency. The PETS Act authorized FEMA to provide the rescue, care, shelter, and essential needs of individuals with pets and service animals, and to provide the essential needs of household pets and animals themselves following a major disaster or emergency. Therefore, in order to evaluate the effectiveness of the PETS Act on state and local municipality emergency plans, the actions this law requires are measure the outcome of emergency preparedness plans.

Several indicators were created directly from the four actions the PETS Act requires state and local municipalities to take. The remaining indicators were created from the interview responses, literature review, and considerations from Congress. The remaining indicators are: credentials of volunteers, co-located sheltering, raising public awareness, coordination, tracking victims, pets, and volunteers, exercising the plan and drills, communication, cooperation, standard operating procedures, fundraising, developing needs assessment, transportation, connecting with the victims, removing dead animals, government support, equipment, and reunification.

State and local municipalities, non-profit organizations, and private companies are key stakeholders implementing the PETS Act. These key players could use these 19 indicators to assess the performance of their organization in relation to the PETS Act. Decision-makers can use this information as a basis for future strategic planning activities and to demonstrate the value of their organization to their local community, other stakeholders, and government

agencies. The performance indicators can be used by local, state, and national agencies to measure the economic and public health value of plans, policies, and/or activities on behalf of the pet owner population and pets and service animals prior to, during, and following a major disaster or emergency.

Benefits of measuring performance include the ability to: (a) determine whether progress has been made toward achieving goals and objectives, (b) provide data-driven feedback to volunteers and stakeholders, (c) identify and characterize successful components of the agency, (d) identify and characterize areas for program involvement, and (e) provide factual evidence of the value of the organization (MRC, Training Guide).

Economic Indicators

Economic indicators can be used to provide information about a plan, policy, or activity that identifies the cost of rescuing, caring, sheltering, or providing essential needs to the pet owner population, pets, and service animals prior to, during, and following a major disaster or emergency. Estimating costs involved in rescue, care, shelter, and procurement, of essential needs will help planners to prepare for a disaster and help to raise enough funds for communities to be prepared. The first four economic indicators directly relating to the PETS Act and will be discussed in the subsequent paragraphs followed by the next four subsequent indicators.

The cost of rescuing individuals and their pets, and service animals can be calculated by considering three types of expenses: (1) number of hours directly in support of congregate pet sheltering operations, (2) amount of overtime pay related to such duties (excluding straight time for reimbursable purposes), and (3) regular-time and overtime pay for contract labor including mutual aid agreements for individuals specifically hired to provide additional support that is required as a result of the disaster or emergency.

The cost of caring for individuals with pets, their pets, and service animals can be estimated by considering the number of pets in the geographic area as follows: (1) estimating the number of food, water, and feeding bowls to have on hand in the event of emergency, (2) estimating the number of animal crates and cages to have on hand, (3) estimating the number of pet transportation carriers to have on hand, and (4) estimating the amount of animal cleaning supplies and tables to have on hand, and (4) estimating the amount of medication to have on hand.

The cost of sheltering individuals with pets, their pets, and service animals can be calculated by considering nine types of expenses: (1) cost of procurement, construction leasing, or renovating buildings for emergency shelters, (2) cost of minor modification to buildings for congregate households for shelters, (3) the cost to lease or rent facilities for sheltering, (4) the cost of increased use of utilities to accommodate animals, (5) the cost of generators to use during

power outages. (Estimating the lease and or operation cost can also be reimbursable through FEMA.) (6) costs of shelter security and safety, (7) cost of managing the facility and operations, (8) cost of cleaning crates, cages and the facility itself, (9) cost of restoring the facility to its original state after disaster and emergency functions have been completed.

The PETS Act requires state and local municipalities to include the needs of individuals with household pets and service animals but also to authorize FEMA to provide rescue, care, shelter, and provide essential needs for these individuals, their pets, and service animals. Costs are reimbursable by FEMA for the following actions:

- *Eligible Labor.* If the regular employees of an eligible applicant perform duties in direct support of congregate pet sheltering operations, any overtime pay related to such duties is eligible for reimbursement. However, the straight-time pay of these employees is not eligible. Regular-time and overtime for contract labor, including mutual aid agreements, specifically hired to provide additional support required as a result of the disaster or emergency is also eligible for reimbursement.
- *Transportation.* Transportation of evacuees' household pets and service animals to congregate shelters from pre-established pickup locations is an eligible expense when the means of transportation used is the most cost-effective available.
- *Cataloging/Tracking System for Pets.* The reasonable costs (to the Applicant) for tracking animals at congregate pet shelters for the purposes of reuniting them with their owners are eligible.

Therefore, these functions can be measured and their costs estimated to give policy makers an idea of how the PETS Act functions and the cost to include the animal function. The following under category of care is a function that can be measured as well. See list below and specific calculations in Table 5.1.

- Food, water, and bowls.
- Crates/Cages.
- Pet transport carriers.
- Animal cleaning tables and supplies.
- Medication for animal decontamination and parasite control to ensure that the animal is not a health threat to humans or other animals.

Shelter costs can be estimated, calculated, and projected for geographic areas in the following specific areas.

- Minor modifications to buildings used for congregate household pet sheltering, if necessary to provide increased capacity for the accommodation of shelterees' household pets.
- Facility lease or rent.
- Increase in utility costs, such as power, water, and telephone.
- Generator lease and operation (but not purchase).
- Shelter safety and security.
- Shelter management.
- Shelter and crate/cage cleaning.
- Shelter Safety and Security. Additional reimbursable safety and security services may be provided at congregate pet shelters, based upon need.
- Cleaning and Restoration. The costs (to the Applicant) to clean, maintain, and restore a facility to pre-congregate pet shelter condition are eligible.

Essential needs are required through the PETS Act. Its activities can be estimated, calculated, and projected as well, or activities that identifies the following resources:

- Resources used to evacuate people and pets
- Resources used to rescue
- Resources used to shelter
- Resources used to transport
- Resources used to remove dead pets

The nineteen indicators are listed in Table 5.1 page 59, Economic Indicator Matrix. The nineteen indicators are organized in three columns. Column one lists the action that participants interviewed thought to be an indicator of successes. Column two lists the indicator of measurement, or how the action from column one would be measured as they pertain to the economic value. Column three lists the specific means of calculating the activity as they pertain to economic value.

Economic Indicator Matrix

Table 5.1.

Economic Indicator Matrix

Action	Indicator	Calculation
1. Credentialing	Number of first responders within certain area credentialed	Numbers of first responders X specific credentials.
	Number of first responders and volunteers with ICS, NIMS, and NRF training	Number of first responders X ICS, NIMS, and/or NRF training.
	Number of volunteers credentialed	Number of volunteers credentialed.
	Number of CARTs within certain area and responders with IS100, IS200, and IS700 training	Number of CART field responders X IS100, IS 200, and IS 700 training.
	Number of first responders, volunteers, and CART responders trained in Animal First Aid, Shelter Management, and Animal Handling	Number of first responders, volunteers, and CART field responders X Animal First Aid, Shelter Management, and Animal Handling training.
	Number of volunteers recruited over X months	Number of volunteers recruited over X months
	Skills of volunteers	Capabilities of the volunteers recruited over past X months.
2. Co-located Sheltering	Number of co-located shelters in certain geographic area	Number of co-located human shelters to pet shelters
	Cost of procurement, construction, leasing, or renovating of emergency shelters	Procurement, construction, leasing, or renovating of emergency shelter facilities and materials that will accommodate people with pets

Table 5.1.

Economic Indicator Matrix

Action	Indicator	Calculation
		and service animals
2. Co-located Sheltering (continued)	Cost of minor modification to buildings used for congregate household pet sheltering	Minor modifications to buildings used for congregate household pet sheltering, if necessary to provide increased capacity for the accommodation of shelterees' household pets
	Cost of facility lease or rent	Facility lease or rent per month
	Cost of increase of utility costs (power, water, or telephone)	Increase in utility costs, such as power, water, and telephone
	Cost to lease and operate generator	Generator lease and operation expense (but not purchase)
	Cost to hire and secure shelter security and safety	Reimbursable cost of safety and security services provided at congregate pet shelters, based upon need
	Cost to hire and maintain shelter management	Shelter management expense
	Cost to clean shelter, crates, or cages	Shelter and crate/cage cleaning
	Cost to clean and restore facilities back to original state prior to use for emergency	Costs (to the applicant) to clean, maintain, and restore a facility to pre-congregate pet shelter condition are eligible
3. Raising Public Awareness	Cost to advertise on radio, TV, billboards, flyers, veterinary clinics, newspapers the location of human and animal shelters	Cost of advertisements weekly, monthly, quarterly, bi-annually, or annually

Table 5.1.

Economic Indicator Matrix

Action	Indicator	Calculation
3. Raising Public Awareness (continued)	Cost of public workshops at public events to display examples of how to prepare animals for disaster	Cost of supplies, booth rental
	Cost to print and publicize contact list for the public to contact in the event of disaster	Cost of printing and distribution to communities or maintain website for the public to access
	Cost of food, event, or booth for fundraising events	Cost of advertising and/or booth rental
4. Coordination	Number of agreements made with coordination efforts with particular agencies within area	Coordination with state/local Vet Med Ass/Vet Schools: to provide veterinary advice and care during planning process as well as response.
	Number of NGSs from different organizations involved in planning process	NGSs from different orgs working together same environment/conditions to complete mission under auspices of state/local government entity shows good planning/success
	VOAD group indentified and contacted	All efforts have to be coordinated to allow FEMA STAF ACT reimbursement of expenses and volunteer hours. Utilization of VOAD group to coordinate volunteer responders must happen to capture all of the hours put in the mission.
	Number of organizations involved in exercise and communications	Dedicated, organized approach to make it happen, plan before the emergency.

Table 5.1.

Economic Indicator Matrix

Action	Indicator	Calculation
4. Coordination (continued)		<p>Planning: “Capability is measured in terms of planning, organizing, training, equipment, and exercise. Plans must reflect how a jurisdiction will provide care to household pets and service animals, including the identification of resources it has or can readily obtain through existing mutual aid agreements (MAAs)” (CPG302HSPA Draft 05MAR09) Line 29-33.</p> <p>Performing a needs assessment determines the risks and threats and determines needs of community to help mitigate risk of humans-co-located or co-habitational shelter is one need found</p>
5. Standard Operating Procedures (SOP)	Number of inventories of proper records and current on proper documents in the event of disaster	Agencies and organizations must provide relative and proper records for reimbursement
	Cost of printing SOP for each agency or department	Cost of SOP X number of departments or agencies that need it
	Cost of maintaining website where SOP could be accessed	Cost of maintaining the website, with username/password and security access
	Cost of labor to maintain SOP, writing, editing, printing, maintaining	Cost of labor X number of hours

Table 5.1.

Economic Indicator Matrix

Action	Indicator	Calculation
6. Tracking (Victims, Pets, and Volunteers)	Cataloging/Tracking System Available	Reasonable costs for tracking animals at congregate pet shelters (for purposes of reuniting them with their owners)
	Tracking system in place	Specifics to track volunteers. Who is where, doing what job or what animals, how many, where animals going, who do animals belong too?
	Tracking/cataloging system in place	Specifics to track pet owners and pets.
7. Exercising the Plan/Drills	Number training events per year	Number of training events the CART, or SART, or KSSART (or whoever) participated in over X months.
	Number of volunteers participating in exercise per year	Number of volunteers participating in at least 1 exercise over X months.
	Number of training hours per volunteer over X months	Number of training hours executed over X months.
	Percentage of volunteers rated training as good or excellent.	Percentage of volunteers rating training event 'good' or 'excellent' (on 5-pt. Scale)
	Number of volunteers completed specific training/certificate related to animal response	Number of volunteers completing specific training/certifications related to Animal Response.
	Quality of training events over X months	Quality of the training events over past X months.

Table 5.1.

Economic Indicator Matrix

Action	Indicator	Calculation
7. Exercising the Plan/Drills (continued)	Number of volunteers trained in FEMA Course 10: Animals in Disaster, Module A: Awareness and Preparedness	FEMA Independent Study Course 10: Animals in Disaster, Module A: Awareness and Preparedness
	Number of volunteers trained in FEMA Course 11: Animals in Disaster, Module B: Community Planning	FEMA Independent Study Course 11: Animals in Disaster, Module B: Community Planning
	Number of responders trained in ICS and NIMS	Number of first responders credentialed. Knowledge of ICS, NIMS, and NRF.
	Number of volunteers credentialed	Number of volunteers credentialed.
	Number of non-traditional responders in attendance of drills	Number of non-traditional responders in attendance.
	Number of first responders in attendance of drills	Number of first responders in attendance.
	Number of CART field representatives in attendance of drills	Number of CART field responders in attendance.
8. Communication	Number of attempts made to establish partnerships and types of communication channels (i.e. radio, phone calls, emails, etc).	Establish partnerships and affiliations between organizations involved in emergency operations (e.g., Emergency Managers, police, fire fighters, EMS, Animal Control, health, hospitals, etc.)
	Number of partnerships created by X months	Number of partnerships established over X months.

Table 5.1.

Economic Indicator Matrix

Action	Indicator	Calculation
8. Communication (continued)	Number of organizations involved in partnerships by X months	Diversity of partnership established over X months.
	Number of times per year the plan tested	Drills or Role Plays (test the plan!)
	Number of drill events over X months	Number of drill events over past X months.
	Number of non-traditional responders in attendance	Number of non-traditional responders in attendance.
	Baseline competency identified for training.	Training: group has identified a baseline competency for training of various responder levels and shared/communicated this. Needs Improvement: Baseline not identified or not communicated, no training events scheduled. Successful: Baseline identified, training communicated, training active.
	Number of groups in attendance at events per x months	Number of groups communicates its activities to LEPC and community at meetings, fairs, and other community events in X months.
	Number of groups in attendance and number of functions involved	Group sends monthly messages to LEPC and is active at all community functions/events communicating activities and/or needs

Table 5.1.

Economic Indicator Matrix

Action	Indicator	Calculation
8. Communication (continued)	Number of messages sent to what organizations	Group sends monthly messages to LEPC and is active at all community functions/events communicating activities and/or needs
	Number of surveys sent out to community	Survey pet owners after emergency to determine if owners had support.
9. Cooperation	Number of multidisciplinary group meetings per month. Number of volunteers in attendance	Number of fund raising activities over X months.
	Number of animal groups in attendance at meetings in X months	Number of animal groups in meetings in X months: provides input into overall plan and/or specific animal annex/attachments/appendices for various functions. Group fully engaged in all identified planning elements addressing animal issues
	Availability of standard operation procedure guidelines	Develop standard operating procedures so first responders can respond
	Number of multidisciplinary group meetings per year	Functional multidisciplinary group including citizens together to address the needs of animals in all phases and types of emergency. Needs.
	Number of planning activities and who in attendance	Group functioning and engaged in various planning activities for animals for all hazards

Table 5.1.

Economic Indicator Matrix

Action	Indicator	Calculation
9. Cooperation (continued)	Number of planning events/meetings animal groups in attendance	Animal groups provide input into overall plan and/or specific animal annex/attachments/appendices for various functions.
	Demographics/population known of pet owners, pets and service animals within particular area	Know number of people who would not evacuate their homes without their pets. Knowing the number of pet owning households in a particular area. Know the number of service animals in a particular area.
	Number of incidents first responders were refused access	Record the number of first responders that have “incidents” with animals that were protecting their house/family/property during a disaster and refused to allow the responders onto said property.
	Number of counties in surrounding areas with emergency plans that include pets.	The number of counties/municipalities that have already included pets/animals in their disaster plans or the reasons why they have failed to do so.
	Number of agencies making connections per quarter	Not any one agency has all the resources, all agencies, all players must play. No one can respond alone.

Table 5.1.

Economic Indicator Matrix

Action	Indicator	Calculation
9. Cooperation (continued)	Number of national conferences per year	Have national conferences and lectures of some type for first responders that over see the actual policy, laws in getting the word out of services available to pet owners before, during, and after an emergency.
10. Fundraising	Cost of programs for animal emergency preparedness purposes	Programs for animal emergency preparedness purposes
	Number of Projects and/or Fundraising for support needed for equipment	Projects and/or Fundraising for support needed for equipment
	Number of fundraising events to obtain funds for construction, leasing or renovating emergency shelter facilities	Procurement, construction, leasing, or renovating of emergency shelter facilities
	Cost of materials obtained to accommodate people with pets and service animals	Materials that will accommodate people with pets and service animals
	Number of private solicitations over X months	Number of private solicitations over X months.
	Number of grant applications submitted over X months	Number of grant applications submitted over X months.
11. Developing Needs Assessment	Number of needs assessments per time frame Number of needs assessments conducted	Determine risks and threats and needs of community. Labor cost X number of hours

Table 5.1.

Economic Indicator Matrix

Action	Indicator	Calculation
11. Developing Needs Assessment (continued)	Number of needs assessments distributed or available online	Printing X number of departments or agencies in need
		Labor cost to maintain website if needs assessment available online
12. Transportation	Number and type of vehicle on hand	Transportation of evacuees' household pets and service animals to congregate shelters from pre-established pickup locations (when the means of transportation used is the most cost-effective available)
	Number of vehicles maintained	Maintenance costs X vehicle
13. Connecting with the victims	Number of communities surveyed	Number of communities surveyed to find out pet owners' concerns
	Number of people surveyed	Number of survey's returned after quarterly exercise or drills
		Number of people surveyed after disaster
14. Reunification	Written system for processing pets to owners after disaster	System written and volunteers on standby in the event of disaster
	Exercise reunification system	Number of reunification exercise X month or year

Table 5.1.

Economic Indicator Matrix

Action	Indicator	Calculation
	Collection of data of pet to owner	System to record data of pet to owner before, during, and/or after disaster
15. Rescue	Labor Hours	Amount of pay (direct support of congregate pet sheltering operations)
	Labor Hours	Amount of overtime pay related to such duties (excluding straight time)
	Labor Hours	Regular-time and overtime for contract labor (including mutual aid agreements), specifically hired to provide additional support required as a result of the disaster or emergency
16. Removing dead animals	Number of dead animals removed	Number of animals removed X square mile
	Labor hours	Labor hours X rate of pay per worker to remove dead animals
	Disposal costs	Disposal fee X number of dead animals
17. Government support	Number of emergency plans including pets in a county	Number of plans that include pets X number of counties
	Number of emergency plans including pets in a community	Number of plans that include pets X number of communities

Table 5.1.

Economic Indicator Matrix

Action	Indicator	Calculation
18. Equipment	Cost of applicant-owned or leased equipment used for pet evacuation or sheltering	Use of applicant-owned or leased equipment (such as buses, trucks, or other vehicles) to provide eligible pet evacuation or sheltering (does not include operator labor)
	Cost of leased equipment	Cost of leasing equipment may also be an eligible expense for reimbursement
	Monetary value of resources on hand in the event of disaster	Resources used to evacuate people and pets
	Inventory of resources on hand to use in event of disaster	Resources used to rescue
	Inventory of resources on hand to use to shelter animals	Resources used to shelter
	Inventory of vehicles on hand to use in event of disaster	Resources used to transport
	Inventory of resources on hand to remove dead animals	Resources used to remove dead pets
19. Essential needs	Percentage of food, water, and feeding bowls available	Percentage of food, water, and bowls available to rescued animals
	Percentage of crates and cages available	Percentage of crates or cages to rescued animals
	Percentage of pet transport carriers	Percentage of pet transport carriers on hand to pets in area

Table 5.1.

Economic Indicator Matrix

Action	Indicator	Calculation
19. Essential needs (continued)	Percentage of animal cleaning tables and supplies on hand	Percentage of animal cleaning tables and supplies to pets in area
	Percentage of medications for animals and humans	Percentage of medications on hand for animal decontamination and parasite control to pets in area (to ensure that the animal is not a health threat to humans or other animals)
	Availability of food, water, and shelter for each animal	Food, water, and shelter
	Availability of essential assistance for individuals with pets and service animals	Providing essential assistance to individuals with household pets and service animals following a disaster
	Emergency veterinary services available, prior to, during, and after disaster	Emergency veterinary services available
	Screening available for household pets and service animals	Screening the health of household pets and service animals
	Availability of veterinarian to assess and treat minor illnesses and injuries	Assessing and treating minor illnesses and injuries
	Availability of staff at congregate pet shelters and veterinary teams	Staffing congregate pet shelters with emergency veterinary teams
	Availability of veterinarian triage, treatment, and stabilization area	Veterinary diagnosis, triage, treatment, and stabilization

Table 5.1.

Economic Indicator Matrix

Action	Indicator	Calculation
19. Essential needs (continued)	Availability of first aid materials for pets and service animals	Provision of first aid, including materials (bandages, etc.)
	Availability of medicine for pets and service animals	Medicine
	Availability of supervision and volunteer veterinary staff	Supervision of paid and volunteer veterinary staff
	Availability and cost of vaccinations for congregate shelter workers (including but not limited to tetanus and hepatitis)	Vaccinations administered to protect the health and safety of congregate shelter and supporting emergency workers including but not limited to tetanus and hepatitis
	Availability and cost of vaccinations for congregate shelter workers (including but not limited to bordetella/kennel cough)	Vaccinations administered to protect the health and safety of congregate shelter pets for transmissible or contagious diseases including but not limited to bordetella/kennel cough

Public Health Indicators

A public health indicator provides information about a plan, policy, or activity that identifies the public health value status with respect to the pet owner population to rescuing, caring, sheltering, or providing essential needs to the pet owner population, pets, and service animals prior to, during, and following a major disaster or emergency. Core indicators can be used to measure health or a factor associated with health such as a risk, intervention in the pet owner population and emergency rescue workers.

Public health indicators can measure the number of deaths attributed to refusing to evacuate due to a pet; to reentering an evacuation site; the number of refusals to evacuate or accept medical attention due to loss of a pet or a pet not being rescued or refusing rescue, sheltering, transportation or care; injuries attributed to reentering evacuation site to rescue pet or service animal; the number of pet carcasses removed and disposed of in a safe and timely manner and in compliance with applicable laws and regulations are eligible.

Public health indicators could also be used to measure preventative measures. Implementation of a prevention indicator might be used to quantify implementation of programs or official policies that reduce risk or prevent increased risk, death or injury to person or pet. Prevention indicators are

- Programs that address reducing risk to your loved ones and pets
- Availability of co-located, or pet-friendly shelters
- Availability of pet-friendly motels, hotels, or public shelters
- Availability of kennel options with veterinarians
- Availability of mass transit for pet owners and pets
- Policies that address pet owners and pets or service animals in time of major disaster or emergency
- Laws pertaining to pet owners and pets or service animals prior, during, and after major disaster or emergency
- Emergency preparedness, response, and mitigation training programs, plans, and protocols
- Annual multi-organizational exercise for disaster response
- Credentialing compliance for volunteers training (NIMS)

- Implementation of community surveys
- Compliance with LEOPs, for emergency response

Public awareness also benefits from using indicators. Programs to inform the public of resources available prior to, during, and after a major disaster or emergency prevents loss of life and risk. Indicators can measure rescue, evacuation, and transportation of pets and people.

Indicators can measure; the accountability of persons and pets; tagging pets, identification of persons with pets; reunification of pets to persons, and credentialing volunteers. Sheltering is another are of public health measurement. Photographing pets and people is a helpful tool that can be monitored and measured. Co-located shelters can be quantified. Essential needs of food, water, medical, security, and accountability can be measured using indicators as well.

The Public Health Indicators are listed in Table 5.2 on page 76. The nineteen indicators are organized in three columns. Column one lists the action that participants interviewed thought to be an indicator of successes. Column two lists the indicator of measurement, or how the action from column one would be measured as they pertain to the public health value. Column three lists the specific means of calculating the activity as they pertain to public health value.

Public Health Indicator Matrix

Table 5. 2.

Public Health Indicators Matrix

Action	Indicator	Calculation
1. Credentialing	Knowledge of training of volunteers	Number of volunteers X specific type of training
		Number of volunteers X different types of skills
		Number of credentialed volunteers X number of miles per community
2. Co-located Sheltering	Public awareness of co-located shelters	Number of TV advertisements or radio announcements of location and capacity of human-animal shelters X per month
	Access to co-located shelters	Number of signs, flyers, public announcements of location of human-animal shelters X square mile radius of communities
	Capacity of co-located shelters	Capacity of shelters X number of pet owners within a certain community
3. Raising Public Awareness	Awareness of public information of emergency preparedness plan	Number of public announcements per month
	Participation of public in emergency response drills or exercises	Number of public emergency response drills per quarter or year
	Responsible behavior of	Quality of care given to pet

Table 5. 2.

Public Health Indicators Matrix

Action	Indicator	Calculation
	emergency responders and pets in previous disaster	owners. Rating scale of service.
	Responsible behavior of pet owners in previous disaster	Rate pet owner behavior survey after disaster to measure improvement
4. Coordination	Number of agencies involved in emergency response plan	Number of agencies included in emergency response plan
	Number of agencies involved in exercises or drills	Number of agencies X number of exercises and/or drills performed per quarter or per year
	Specialty coordination group to coordinate volunteer responders	Number of groups to coordinate volunteers per certain population size
	Communication channels between agencies	Means of communication among agencies during disaster or exercise and/or drills (example emails, emergency alerts, telephone calls, cellular phone calls, hand held radio communication)
4. Coordination (continued)	Quality of communication among agencies during exercise and/or drills	Rate time of communication among agencies during exercise and/or drills
5. Standard Operating Procedures (SOP)	Number of agencies that have SOPs	Number of agencies that have SOPs
	Quality of SOP per agency	Rate the quality of information included in each agencies SOP
	Number of times the SOP is	Number of updates of SOP per

Table 5. 2.

Public Health Indicators Matrix

Action	Indicator	Calculation
	updated	year
6. Tracking (Victims, Pets, and Volunteers)	Quality of tracking system	Rate quality of response time and tracking pet owners to their pets
	Number of pets micro chipped within a community	Number of micro chipped pets to number of pets
7. Exercising the Plan/Drill	Quality of exercise of the plan per quarter or year	Rate the quality of the exercise or plan per quarter or year by each player or organization involved
	Number of participants in exercise and or drill per quarter or year	Number of participants X number of exercises per year
8. Communication	Means of communication among agencies	Rate efficiency of the means of communication among agencies (is email, telephone, alert messages, hand held radios the best means of clear, concise, and quick communication among agencies)
	Speed of communication among agencies	Rate the speed of agencies receiving alert messages among agencies
	Success rate of connection made with each agency	Rate the success rate of the connection made to each agency (rate number of mis-communication or failed communications among agencies)

Table 5. 2.

Public Health Indicators Matrix

Action	Indicator	Calculation
9. Cooperation	Number of meetings among agencies per year	Number of agencies X number of meetings per year to discuss emergency planning changes
	Quality of each agency being informed of emergency planning changes	Rate knowledge of each agency being informed of continuous changes (quarterly or annual quiz could be distributed to each agency to measure the knowledge level of each organization to current changes)
10. Fundraising	Number of fundraiser events per agency per year	Number of fundraiser events per agency per year
	Amount of money raised per fundraiser event	Amount of money raised per fundraiser event
10. Fundraising (continued)	Attendance of people at fundraiser events	Number of people in attendance of fundraiser events
	Advertisement of fundraiser events	Type of advertisement of fundraiser events
11. Developing Needs Assessment	Number of needs assessment surveys distributed to community per year	Number of needs assessments distributed to number of individuals in a community per year
	Number of improvements made to emergency response plans per quarter or year	Number of improvements made to emergency response plan per quarter or per year from the needs assessment
	Strengths and weaknesses assessed per year per agency	Strengths and weaknesses assess per agency per quarter or

Table 5. 2.

Public Health Indicators Matrix

Action	Indicator	Calculation
		per year and number of improvements made
12. Transportation	Availability of transportation of pet owners and their pets to and from shelters, veterinarian stations, hospitals, and/or triage stations	Number of vehicles X estimated pet owners and their pets
	Designated pick up locations of pets, prior to, during, and after disaster	Designated pick up locations for pet pick up and destination posted with times
13. Connecting with the victims	Quality of service and care to victims	Rate quality of services provided by first responders to pet owners and pets through survey after disaster
13. Connecting with the victims (continued)	Grief counseling training for all first responders	Number of first responders X number of grief training per quarter or per year
14. Reunification	Reunification system in writing for processing pets to pet owners after disaster	Reunification system in place per community
	Number of reunification system exercises per quarter or year	Number of reunification process exercise per quarter or per year
	Process of collection of data of pet to owner	Test process to collect data of pet to pet owner
15. Rescue	Number of vehicles available to rescue pets and or pet owners and their pets	Number of vehicles for pet rescue or pet owners with pets X number of pets and owners

Table 5. 2.

Public Health Indicators Matrix

Action	Indicator	Calculation
	Frequency of pet rescue vehicles prior to, during, or after disaster	Frequency of pet rescue vehicles in a disaster are
	Number of stops in designated locations for pet owners and their pets	Number of stops in designated locations for pet owners and their pets
	Informed community of designated location of pet owner and pet rescue vehicles	Number of advertisements, public announcements, billboards, radio announcements, signs, or public informational meetings to inform public of transportation available prior to, during, and after disaster
16. Remove dead animals	Timeliness of dead animal removal	Number of dead animals remove X time of reported carcass to removal time
	Timeliness of notification to owners of dead animal	Number of notifications to pet owners X number of dead animals removed
	Means of communicating to pet owners the loss of their pet	Types of communication means to pet owners about loss of their pet
17. Government support	State, county, or city emergency response plans include pet owners and pets	Number of emergency response plans that include pet owners and pets per state, county, or city
18. Equipment	Number of rescue vehicles for animals	Number of rescues vehicles per number of pet owners and pets

Table 5. 2.

Public Health Indicators Matrix

Action	Indicator	Calculation
		in designated areas
	Number of cages per pet owners and pets in designated communities	Number of cages per CART or per community and estimated number of pets in designated area
	Number of generators per number of veterinary stations during disaster	Number of generators per number of veterinary stations per community
	Number of food dishes per veterinary station	Number of food dishes per number of estimated pets in designated community
	Number of leashes per veterinary station	Number of leashes per number of estimated pets in designated community
18. Equipment (continued)	Number of surgical equipment units per community	Number of surgical equipment units per estimated number of pets per community
19. Essential needs	Number of food dishes per estimated number of pets within a community	Number of food dishes per estimated number of estimated pets per community
	Number of crates and cages	Number of crates and cages per number of estimated pets per community
	Number of animal cleaning tables and supplies	Number of animal cleaning tables and supplemental supplies per estimated number of pets in a community
	Percentage of medications for pets	Percentage of certain medications per estimated number of pets within a

Table 5. 2.

Public Health Indicators Matrix

Action	Indicator	Calculation
	Availability of water and food for pets	community Number of gallons of water and pet food per estimated number of pets in a community

CHAPTER 6 - Conclusion

Indicators are defined in this thesis as a data element that quantifies performance. Indicators may be used “to measure performance of policies and programs; to examine trends, to monitor conditions, to inform decision-makers, to raise public awareness; to define targets; to set planning objectives; to compare localities horizontally” (Mitra, 2003, p. 30).

The PETS Act requires the state and local emergency preparedness operational plans to include the needs of individuals with household pets and service animals following a major disaster or emergency. The PETS Act authorized FEMA to provide the rescue, care, shelter, and essential needs of individuals with pets and service animals to provide the essential needs of household pets and animals themselves following a major disaster or emergency. Therefore, in order to evaluate the effectiveness of the PETS Act on state and local municipality emergency plans, the very actions this law requires are indicators that measure the outcome of emergency preparedness plans.

Almost every discipline uses some type of indicator to systematically measure progress, effectiveness, success, and efficiency. Each discipline defines, establishes, and utilizes their indicators. This research reviewed eleven agencies and disciplines to investigate how each defined, established, and utilized their indicators. The eleven were from the Community and Regional Planning Department University of British Columbia, GOA, EPA, Department of Health and Human Services, China’s Policy Research Center for Environment and Economy, United States Department of Homeland Security, European Health Promotion Monitoring System, MRC, FEMA, Vanderbilt University (Tennessee), and the World Bank.

Community planning created and used quantitative indicators to develop “systematic knowledge on how cities recover from disaster” (Chang, 2010, p. 303). The GOA, EPA and the United States Department of Homeland Security developed and used quantitative environmental indicators to measure conditions and trends to assess the state of the environment, natural resources, and to gauge progress towards specific goals. The Department of Health and Human

Services created and used public health indicators to predict the relationship between human health and the environment. The European Health Promotion Monitoring System also created and used health promotion indicators. China's Policy Research Center for Environment and Economy is creating a Green GDP index system to assess the environment. The MRC created and used a matrix to measure the progress of pre-established goals and objectives. FEMA uses indicators to compare risks which determine hazards or threats that may need special attention in planning, emergency, or homeland security management issues.

Emergency response planning is another discipline that uses quantitative and qualitative indicators to measure the risks in disaster. The PETS Act, enacted only four years ago, has affected the content of what the local and state emergency preparedness operation plans include. It also will affect how state and local first responders, communities, and emergency management will respond in to pets and their owners. This indicates the need to establish a framework to measure the impact of the PETS on state and local emergency response plans.

Chang's work of "Useful Indicators" stated indicators should meet three criteria: 1) indicator definition should be universal; 2) data should be readily available, and 3) measurement should be standardized (2009, p. 5). This thesis has used Chang's criteria to overlay the 19 indicators of success to measure outcomes of evacuating pets through state and local emergency preparedness operational plans in the area of economic and public health.

Research proves that pet owners are unwilling to evacuate if they are unable to evacuate with their pet in times of disaster. Pet owners are willing to risk their own lives by reentering evacuation areas to rescue their pets. Pet owners are unwilling to take shelter if they are unable to shelter their animal with them or in a secure shelter. Emergency response plans that include animal rescue has implication for planners, first responders, and pet owners.

Implications for city planners are that emergency response plans must include provisions for people with household pets and service animals. This could require co-located shelters that will accommodate both people and pets; having public transportation that will accommodate both humans and pets; exercising the plan with all parties involved; informing the general public

of where to go and what to do in times of emergency; communicating, coordinating, and cooperating with all parties.

City planners who play a role in creating, evaluating, monitoring, and or improving emergency preparedness plans and evacuation systems for pets and pet owners could use these indicators to measure the effectiveness of these processes at the state and local level. By assessing the effectiveness of the plans, improvements can then be made as deficiencies are found, and as a result save human lives.

Research supports the application for disaster response teams to create standard operating procedures that include communicating, coordinating, and cooperating with all parties; a tracking system of victims, pets, and volunteers; a tracking system of credentialed volunteers in local areas; fund-raise for equipment; and preparation of needs assessment for local communities. These systems will need evaluated to ensure compliance with the PETS Act and for successfulness of evacuating pets and pet owners.

Research also supports the need for pet owners to be informed prior to a disaster where co-located shelters are; what transportation available to them and their animals; participation in the exercise of the emergency response plans; steps to take if a disaster causes the pet owners to be separated from his animal. These indicators will assist in measuring, assessing, guiding, and monitoring the success of their evacuation which in turn will save lives.

Through this research, interviewing the first responders from the various agencies, 19 indicators were created. These indicators support this new idea of including pets and companion animals in emergency preparedness operational plans. They can be used to measure, assess, guide, and monitor the effectiveness of emergency evacuation plans for pets and their owners.

References

- American Humane Aids Animal Shelters in Midwest Flooding. (2008, June 19). PR Newswire. Retrieved November 1, 2009, from ABI/INFORM Dateline. (Document ID: 1497490931).
- American Kennel Club Survey says owners would defy evacuation to stay with pets. (2006, August). *DVM Magazine*. Retrieved November 11, 2008, from <http://veterinarynews.dvm360.com/dvm/Veterinary+news/AKC-Survey-says-owners-would-defy-evacuation-to-st/ArticleStandard/Article/detail/363985>.
- American Pet Products Manufactures Association. (2005/2006). *National pet owners survey*. Greenwich, CT.
- American Veterinary Medical Association. (1997). *U.S. Pet ownership & Demographics Sourcebook*. Schaumburg, Ill: Center for Information Management, American Veterinary Medical Association.
- American Veterinary Medical Association. (2007). *U.S. Pet ownership & Demographics Sourcebook*. Schaumburg, Ill: Center for Information Management, American Veterinary Medical Association.
- AVMF rolls out \$6.5 million disaster plan. (2003, September). *DVM*, 34(9), 12. Retrieved November 1, 2009, from Research Library. (Document ID: 434922831).
- AVMA. PETS Act FAQ. (2009). Retrieved November 27, 2009, from http://www.avma.org/disaster/petsact_faq.asp
- Basler, B. (2006, May). No Friend Left Behind: The Public Demands Evacuation Plans for People and Pets, *AARP Bulletin*. Retrieved February 6, 2007, from http://www.aarp.org/bulletin/yourlife/evacuating_pets.html
- Bauer, G., Davies, J, Pelikan, J., Noack, H., Broessekamp, U., & Hill, C. (2003). Advancing a theoretical model for public health and health promotion indicator development. *European Journal of Public Health*. Retrieved November 22, 2008, from http://eurpub.oxfordjournals.org/cgi/reprint/13/suppl_1/107.pdf
- Beaver, B., Gros, R., Bailey, M. E., & Lovern, C. (2006, September). Report of the 2006 national animal disaster summit. *Vet Med Today: Disaster Medicine*, Vol 229(No. 6.), 943-948. Retrieved November 22, 2008, from http://www.avma.org/avmacollections/disaster/javma_229_6_943.pdf
- Bloomberg.com (2005, September 1), "Katrina Aftermath May Bring Hepatitis, Cholera, Officials Say," Retrieved May 27,2006, from <http://www.bloomberg.com>

Bognar, G. (2005, October). The concept of quality of life. *Social Theory and Practice*, 31, 4. p. 561(20). Retrieved November 24, 2009, from the Academic OneFile via Gale database.

Centers for Disease Control and Prevention. (2006, January). Department of Health and Human Services. Environmental Hazards and Health Effects. Environmental Public Health Indicators Project. Retrieved November 1, 2009, from <http://www.cdc.gov/nceh/indicators/introduction.htm>

Chang, S. (2010). Urban disaster recovery: a measurement framework and its application to the 1995 Kobe earthquake. Retrieved November 8, 2009, from <http://www3.interscience.wiley.com.er.lib.k-state.edu/cgi-bin/fulltext/122663611/PDFSTART>

China's green leap forward. (2005, January-February). v47 i1 p4(1) *Environment*, 47, 1. p.4(1). Retrieved November 13, 2009, from the Expanded Academic ASAP via Gale database.

Congressional Record. House. Pets Evacuation and Transportation Standards Act of 2006. Vol. 152, No. 118. Text 6806. Shuster, Shays, Oberstar, Lantos, & Kucinich. Retrieved November 29, 2009, from http://web.lexis-nexis.com.er.lib.k-state.edu/congcomp/document?_m=7729ef179f46076b33e10532497628c7&wchp=dGLbVtb-zSkSA&_md5=9d691caab8719f1072545d407155c709

Congressional Record. The United States House of Representative. (2006, September 20). Section 51. Pets Evacuation and Transportation Standards Act of 2006. Retrieved November 20, 2009, from <http://www.govtrack.us/congress/record.xpd?id=109-h20060920-51&bill=h109-3858#sMonofilemx003Ammx002Fmmx002Fmmx002Fmhomemx002Fmgovtrackmx002Fmdatamx002Fmusmx002Fm109mx002Fmcrmx002Fmh20060920-51.xmlElementm6m0m0m>

Decamp, D., & Writer, T. S. (2007, June 1). Pets lacking a haven from hurricanes. *St. Petersburg Times* (Florida), pp. 1.

FEMA: Cost Estimating. (2009, June). Retrieved November 27, 2009, from http://www.fema.gov/government/grant/pa/re_estimating.shtm

FEMA: Eligible Costs Related to Evacuation to Evacuations and Sheltering. Disaster Assistance Policy 9523.15. (2007, June 15). Retrieved November 22, 2008, from http://www.fema.gov/government/grant/pa/9523_15.shtm

FEMA: Glossary/Acronyms. (August, 2010). Retrieved October 29, 2010, from <http://www.fema.gov/emergency/disasterhousing/glossary.shtm>

FEMA. National Disaster Housing Strategy Resource Center. Retrieved November 20, 2009, from <http://www.fema.gov/emergency/disasterhousing/glossary.htm#E>

- FEMA: Number of Declarations Per Calendar Year since 1999. Retrieved November 22, 2009, from <http://www.fema.gov/government/grant/pa/stat1.shtm>
- FEMA. State, Territorial, Tribal, and Local Government Emergency Plans. (2009, March). Comprehensive Preparedness Guide (CPG) 101. Retrieved October 30, 2009, from http://www.fema.gov/pdf/about/divisions/npd/cpg_101_layout.pdf
- Ellis, K. (2007). Disaster Readiness: Lessons From Katrina. *Nephrology Nursing Journal*, 34(1), 82-3, 98. Retrieved November 1, 2009, from the Research Library database. (Document ID: 1254167211).
- Gallay, C. (2009, June 16). Island vet Ken Diestler is honored for work after Ike. *McClatchy - Tribune Business News*. Retrieved November 1, 2009, from ABI/INFORM Dateline. (Document ID: 1748053571).
- GAO-05-52. (2004, November). United States Government Accountability Office. Report to Congressional Requesters. Environmental Indicators. Better Coordination Is Needed to Develop Environmental Indicator Sets That Inform Decisions.
- Gaskell, S. (2008, August 31). This time around, hurricane evacuees can take pets, too. *New York Daily News*. Retrieved August 31, 2008, from http://www.nydailynews.com/news/national/2008/08/31/2008-08-31_this_time_around_hurricane_evacuees_can_-1.html#ixzz0YwpXNKM5
- Goldman, A. (2009, August 27). Pets require an evacuation plan as well. *USA TODAY*, p. 6D. Retrieved November 1, 2009, from National Newspaper Abstracts (3). (Document ID: 1847720461).
- Hall, M., NG, A., Ursano, R. J., Holloway, H., Fullerton, C., & Casper, J. (2004). Psychological impact of the animal-human bond in disaster preparedness and response. *Journal of Psychiatric Practice*, 10(6), 368-374.
- Heath, S. E., Kass, P. H., Beck, A. M., & Glickman, L. T. (2001). Human and pet-related risk factors for household evacuation failure during a natural disaster. *American Journal of Epidemiology*, 153(7), 659-665.
- Heath, S. E., Voeks, S. K., & Glickman, L. T. (2000). A study of pet rescue in two disasters. *International Journal of Mass Emergencies and Disasters*, 18(3), 361-381.
- International Fund for Animal Welfare; Animals Protected From Gustav's Fury. (2008, September). *Journal of Farming*, 32. Retrieved November 1, 2009, from the Research Library database. (Document ID: 1556172311).
- Kansas State Animal Response Team, SART. (2009, September 18).

- Kehn, M., & Kroll, T. (2009, June 1). Staying physically active after spinal cord injury: a qualitative exploration of barriers and facilitators to exercise participation. *BMC Public Health*, 9, 168. p.168. Retrieved November 24, 2009, from the Academic OneFile via Gale database.
- Lawn, P. (2007, Winter). Sustainable Development Indicators in Ecological Economics. *International Journal of Ecological Economics & Statistics*, 7, p.100 (1). Retrieved November 24, 2009, from the Academic OneFile via Gale database.
- Leonard, H., & Scammon, D. (2007). No Pet Left Behind: Accommodating Pets in Emergency Planning.
- McNicholas, J., Gilbey, A., Rennie, A., Ahmedzai, S., Dono, J., & Ormerod, E. (2005). Pet ownership and human health: A brief review of evidence and issues.331, 1252-1254.
- Mitra, A. (2003, Fall). A tool for measuring progress: the growing popularity of sustainable indicators in the United States. *National Civic Review*, 92, 3., 30 – 45. Retrieved November 23, 2009, from the Academic OneFile via Gale database.
- MRC. Core Competencies Matrix. (2007, April). Retrieved October 30, 2009, from http://www.medicalreservecorps.gov/File/MRC%20TRAIN/Core%20Competency%20Resources/Core_Competencies_Matrix_April_2007.pdf
- MRC. Training Guide#3: Performance Measurement. Where are we going? How will we get there? (n.d.). Retrieved October 30, 2009, from http://www.medicalreservecorps.gov/File/MRC_Resources/Evaluation_Toolkit_Final_Performance_Measure_7-5%281%29.pdf
- News, U. F. (2006, May 23). Pet-loving Georgians call bill a disaster. *U.S. Fed News*.
- North Carolina State Animal Response Team (SART). (n.d.). Retrieved March 14, 2008, from <http://nc.sartusa.org/>
- Peters, S. (2008, September 2). Animal rescuers set to go in after Gustav. *USA TODAY*, p. D.4. Retrieved November 1, 2009, from National Newspaper Abstracts (3). (Document ID: 1546442201).
- Petfinder.com Foundation 'Rescues' 500 Shelters and Rescue Groups Nationwide with \$1 Million Worth of Generators. (2009, March 9). *PR Newswire*. Retrieved November 1, 2009, from ABI/INFORM Dateline. (Document ID: 1657555941).
- PETS Act, Pub. Law No. 109-308. H.R.3858 Pets Evacuation and Transportation Standards Act of 2005. Enacted (9/22/2005).

- Pet Sheltering: Building Community Response*. (2007). pp. 1-3. Retrieved April 23, 2010, from http://www.ready.gov/america/_downloads/toolkit_pets/ARCPetsandSheltering_3pg.pdf
- Press Release. (2006, October 6). President Bush Signs Bill to Leave No Pet Behind in Disaster Planning and Evacuation. Retrieved April 9, 2008, from http://www.hsus.org/press_and_publications/press_releases/president_bush_signs_pets_Act.html
- Press release: Colorado veterinary medical foundation. (2006, December 5). pp. 1-3. Retrieved November 22, 2009, from <http://www.cosart.org/documents/PETSAct12-6-06.pdf>
- Public Assistance Grant Program Briefing. (2008, June 13). Retrieved November 22, 2008, from <http://www.oregonanimallaw.com/wp-content/uploads/2008/06/fema-region-10-animals-in-disasters-overview.pdf>
- Sacks, A. (2008, September 6). New York caregivers ensure Gustav is no Katrina for Louisiana's pets. *Daily News*.
- Schultz, K. (2007, August). Teams rescue animals caught in multi-state floods. *DVM*, 38(8), 6,8. Retrieved November 1, 2009, from Research Library. (Document ID: 1325080651).
- Senate panel approves bill requiring evacuation plans for animals. (2006, June 15). *The Associated Press State & Local Wire*.
- Silver-Greenberg, J. (2005, November). Pets: Prepared for the Next Disaster :U.S. Edition. *Newsweek*, 146(19), 13. Retrieved November 1, 2009, from ABI/INFORM Global. (Document ID: 957483011).
- The Library of Congress, 109:H.R. 3858, 2006. The PETS Act. Retrieved November 22, 2009, from http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=109_cong_public_laws&docid=f:publ308.109
- U.S. Environmental Protection Agency. Environmental Indicators Gateway. (2009, January 21). Retrieved November 1, 2009, from <http://www.epa.gov/indicators/>
- Vanderbilt Pandemic Plan Matrix. (2009, August). Retrieved November 22, 2009, from http://emergency.vanderbilt.edu/plans/flu/pandemicflu_matrix_0809.pdf
- Williamson, D. (2006). Saving animals to save people: Disaster officials put pets in plan. Island Packet. *The Hilton Head Island, SC*.
- World Bank. (2006). World Development Indicators 2006. World Bank Group. Retrieved November 13, 2009, from <http://lib.myilibrary.com.er.lib.k-state.edu/Browse/open.asp?ID=41375&loc=Cover>

World Bank. (2009). World Development Indicators 2009. World Bank Group. Retrieved November 13, 2009, from <http://web.worldbank.org/WBSITE/EXTERNAL/DATASTATISTICS/0,,menuPK:232599~pagePK:64133170~piPK:64133498~theSitePK:239419,00.html>

Appendix A - Interview Response Data Matrix

Table A1.

Interview Response Data Matrix

Participant	Economic considerations	Public health considerations
Emergency Medical Services, Sedgwick County	The number of people involved in the process increases when we have to account for animals	Victims are distraught if animals are taken from them and not accounted for, or they don't get their animal back because there was no one or no place to put their animal.
	People and animals must be tracked	
	Execute the plan or hot wash the plan. Is it going to work with the players involved? Test it	With all hazard model-all parties play. All first responders and volunteers need to be trained and credentialed to reduce risk to life of both victims and responders.
	EMS responders have had no good choices up to this point as to what to do with people's animals. This has been a very real problem that has needed solution for a long long time.	Tag the person, tag the animal. This reliable, meaningful, defensible process helps EMS attend to the human care.
	If the person dies, what value do we place on the animal? It's their property; what do we do with it?	Coordination and communication between all players. Hey there's a tornado in McPherson tonight, everyone comes, EMS, KS SART so to respond to the situation effectively.
	We have an amendment to the Robert T. Stafford Act and the PETS Act and these are the requirements. That's all fine and good, coming down from the top. But, these are all unfunded mandates. So what it takes is local people like these folks here. Like Sedgwick county animal	Triage areas are set up; dead go here, injured people and children go here. The animals need a place to be taken too, cared for, and tracked. EMS is not equipped to care for the animals.

Table A1.

Interview Response Data Matrix

Participant	Economic considerations	Public health considerations
Red Cross, Midway Kansas Chapter	response teams. I sit on their board as the director.	After people are pushed through the treatment area people need to be reunified with their pet.
	Have drills or role play because there are many nontraditional responders coming into play	Proven fact, people will not leave without their pet. We need a solution!
	Out of 150 people, you'll have 60 animals.	
	With all hazard model-all parties play. All first responders and volunteers need to be trained and credentialed to reduce risk to life of victims and responders themselves.	Victims start over with their purse, their shoes, and their animal, and I'm going to take one-third of that from that?
	Triage areas are set up: dead go here, injured people and children go here. The animals need a place to be taken to, cared for, and tracked. EMS is not equipped to care for the animals.	Uncaring attitude from EMS or responders: you can get another animal, mentally and psychologically damaging to victims who've lost all
	Co-located shelters are needed to place people near their animals.	Getting shelter open quickly, so Red Cross is there first resource.
Code 3 Associates		Have Case Workers to help victims and also to quickly shut down when everyone has a place to go.
	Credentialing and tracking volunteers and animals. There has been a real lack of	Co-located shelters allow victims to be near their animals. Placing shelters closer to communities to aid in mental health of victims

Table A1.

Interview Response Data Matrix

Participant	Economic considerations	Public health considerations
Animal Control Supervisor/Overland Park Police Department	accountability.	
	Connecting with the outside. Victims have lacked a personal touch.	Remove dead animals quickly for pet owners and rescuers. (GUSTAV people seemed much happier knowing animals were taken care of.)
	Fundraising needed for equipment	Survey people need to get feedback: were people happy there? What were their complaints? Were all their needs met?
	Lack of government support. Government has not supported Code 3 Associates. The National Animal Rescue and Sheltering Coalition includes: (AHA, ASPCA, Best Friends Animal Society, Code 3 Associates, IFAW, NACA, SAWA, UAN/EARS).	Did every pet get returned to the proper owner? No animal should be without its family.
	Lack of accountability in the time of emergency response has posed a problem with volunteers.	Contentment of pet owners is important. People should be able to feed, see, and walk their pets.
	There has been a lack of creditability of volunteers wanting to help. First responders and Code 3 have not known what people's skills are or what they are trained to do. This is a logistical problem. There has also been no way of tracking volunteers: who is where, doing what job, or what animals, how many, where the animals are going, or who they belong too.	Public health is a real concern. The mental health of victims needs to be acknowledged. These are very real problems in emergency disaster. Putting shelters close to areas where people live. In the event of disaster, the public can feel at ease knowing at least they and their animals have a safe haven to go.
	Connecting with the outside. There has been a real loss of personal touch and empathy to the	Communications, Cooperation, and Coordination. Talking with experts, give and take to listen to each other. Animal experts, legislation, and public work together to target a plan.
		Get the right players. Example: Animal Contacts

Table A1.

Interview Response Data Matrix

Participant	Economic considerations	Public health considerations
Emergency Management, Grant County	victims of a disaster. Very unsympathetic to people who've just been through a flood and lost everything they've worked for.	Veterinarians and Vet techs to help develop the plan.
	Transportation. A hurricane in Florida; victim rode on fire truck to ensure his dog got to safe area.	
	Lack of federal government support. The government has not supported Code 3 Associates as an organization or what they do to provide first response to emergency situations.	
	Testing the plan. Test the plans through exercise or drills.	
	Communication, coordination, and cooperation. Everyone must work together to implement the plan.	Functionality: example having 20 volunteers, where do they go, what direction?
	Have exercises or drills to test the plans. If hazard doesn't happen for 15 years, the plan needs to be tested. People need to know how to use the plan.	Have qualified people. Train volunteers so people don't get hurt. Community support. Cooperation within teams.
	Performing a needs assessment determines the risks and threats and determines needs of community to help mitigate risk to humans co-located, or co-habitational shelter is one need	Rapport with one another.

Table A1.

Interview Response Data Matrix

Participant	Economic considerations	Public health considerations
	found.	
	Not any one agency has all the resources. All agencies, all players must play. No one can respond alone.	
	Develop standard operating procedures so first responders can respond.	
Bureau of Public Health Preparedness, Kansas Department of Health and Environment	Planning: animal groups provide input into overall plan and/or specific animal annex/attachments/appendices for various functions. Needs Improvement: Group involved in some but not all identified needed areas. Successful: Group fully engaged in all identified planning elements addressing animal issues.	Planning: functional multidisciplinary group including citizens to address the needs of animals in all phases and types of emergency. Group needs improvement: Group need not identified or group not functional. To be successful: Group's engaged in various planning activities for all animals for all hazards.
	Training: group has identified a baseline competency for training of various responder levels and shared/communicated this. Needs Improvement: Baseline not identified or not communicated, no training events scheduled. Successful: Baseline identified, training communicated, training active.	Communication: group communicates its activities to LEPC and community at meetings, fairs, and other community events. Needs Improvement: No or limited communication to LEPC and/or the community. Successful: Group sends monthly messages to LEPC and is active at all community functions/events communicating activities and/or needs.
	Exercising: progressive exercise strategy coordinated with community emergency exercise strategy is developed and in-place to promote coordination between response organizations.	

Table A1.

Interview Response Data Matrix

Participant	Economic considerations	Public health considerations
KS SART, Treasurer	Agencies and organizations must provide relative and proper records for reimbursement	People must be willing to break the rules so bureaucrats won't get in the way of allowing people and their animals to be rescued.
Kansas State Animal Response Team, President/Director	Know number of people who would not evacuate their homes without their pets.	
	Know the number of pet owning households in a particular area.	
	Know the number of service animals in a particular area.	
	Look at the number of first responders that have had "incidents" with animals that were protecting house/family/property during a disaster and refused to allow the responders onto said property.	
Lawrence Humane Society, Incorporated	Determine the number of counties/municipalities that have already included pets/animals in their disaster plans or the reasons why they have failed to do so.	
	Raising community support for public awareness and funding	Train and credential volunteers. Having qualified people so that people helping in the rescue of victims won't get hurt
	Do not publicly announce needs. There often times is an over abundance of items. Instead make a plea for needed items. It was her	Co-located shelters, being prepared by people who know how to shelter animals.

Table A1.

Interview Response Data Matrix

Participant	Economic considerations	Public health considerations
Veterinarian, Little Apple Veterinarian, Manhattan, Kansas	experience that they made a public announcement for items, and received a tractor trailer full of dog food. It went bad, and they then had to get rid of it.	
	Organization of getting word out. Informed Public: getting the word out that help is available, transportation, shelters, and medical assistance.	Knowing who to call. For instance, ice storm in Manhattan two years ago, 10 to 20 boarders, no power, no heat, and veterinarian's made extra room for pets. People didn't know where they were there or that their services were available to them during or prior to the ice storm. Hurricane Gustav was much better about this, but Texas this year, needs improvement.
		Where can people take their pets, where can the people go with their pets? People need to know who they can call.
		Vet records of animals need to be available and up to date to better treat the animals.
		Have national conferences and lectures of some type for first responders that oversee the actual policy, laws in getting the word out of services available to pet owners before, during, and after an emergency.
		Survey pet owners after emergency to determine if owners had support.

Table A1.

Interview Response Data Matrix

Participant	Economic considerations	Public health considerations
Kingman Pratt Area Animal Response Team (KPA ART)	<p>Establishing rapport with emergency managers: This is the first and most important step in establishing a CART. An effective CART should work within the scope of the emergency manager who is a member of the local emergency response team which may include police, fire fighters, EMS, animal control and others.</p> <p>Getting credentialed volunteers: Having skillful volunteers on an emergency scene and knowing what their skills are helps responders to make most efficient use of their skills to help victims. Working within the local emergency management systems means that responders must have an understanding of the Incident Command System used by emergency responders and FEMA. In addition to requiring all CART field responders to complete training in IS100, 200, and 700 we continually emphasize training in animal first aid, shelter management, animal handling through tabletop exercise, classroom instruction and field exercise. KS SART is also developing credentialing standards for CART managers and volunteers which will help us to properly staff our shelters with trained volunteers and standardize the credentialing for shelter staff.</p>	<p>Public awareness: Make sure the public is aware who is there to help during an emergency. Prepare communities to plan ahead and be prepared for emergencies. After a disaster, it may take responders several hours or even days to effectively respond to the needs of a community. Personal preparedness can mitigate the impact of a disaster on the local citizens. Being ready to evacuate your pets with you following a disaster and having a plan to provide for the care or shelter of your pet with other family members or friend will minimize stress on your pets and you.</p> <p>Developing rapport with others: Health Department, Volunteer Response Groups, Other Human Societies, and Rescue Groups. Knowing how to communicate and interact is invaluable. Effective partnership with other disaster response groups is the key to success. The American Red Cross and CARTs need to especially coordinate disaster response efforts. The human/animal bond can be as strong as our bonds with family members. Minimizing the stress on both individuals and their pets is the goal of our responders.</p>

Table A1.

Interview Response Data Matrix

Participant	Economic considerations	Public health considerations
	<p>Establishing fundraising, without community awareness and support is almost impossible. Without funding, there can be no equipment.</p> <p>Building an inventory of resources is one of the hardest jobs of a CART. Identifying needed equipment to cover a multitude of disasters and numerous species of animals, from dogs and cats to pigs and ferrets, can be a daunting task. Pre-disaster funding for CART is primarily through the private fund raising efforts of each team. Government budget cuts have made public funding almost non-existent. We are relying primarily on private solicitations, grant applications, and fund raising activities to promote our organization in the local area and raise funds for educating and equipmening our volunteers. Building a network of CARTs through out the state will also help to ensure that resources are available through a resource sharing system.</p> <p>CARTs work with EMS to develop disaster plans and each CART develop an SOP: Developing a local disaster plan that takes into account the needs of households with pets and service animals is required by the PETS Act of 2006. Not only is this needed in order to qualify for reimbursement by FEMA for disaster</p>	

Table A1.

Interview Response Data Matrix

Participant	Economic considerations	Public health considerations
Veterinary, Oklahoma Veterinary Medical Reserve Corp, State Animal Response Team	<p>response costs, but it helps the local emergency managers identify the organizations with the resources and training to assist in disaster response. It also helps to identify areas of responsibility and the role each agency has planned and prepared for. As a CART, our group is working on standard operating procedures for mobilizing, operating and demobilizing a temporary animal shelter. The SOPs provide guidelines for all phases of our emergency operations including communications, logistics, safety and planning, volunteer coordination and shelter operations.</p> <p>Veterinary medical support has to be provided to animals.</p> <p>OVMRC is first responder capable and intimately involved in local, county, and state emergency planning and training.</p>	
Regional Coordinator, Office of Civilian Volunteer Medical Reserve Corps, US Dept	<p>Sheltering is either co-located, co-habitational, or separate). We then serve at the pleasure of the authorizing agency for the specific task or mission assigned.</p> <p>Establishment of partnerships and affiliations between organizations in emergency operations (e.g., law enforcement, fire, EMS, emergency management, public health, hospitals, etc.).</p>	

Table A1.

Interview Response Data Matrix

Participant	Economic considerations	Public health considerations
of Health & Human Services, Region VII	Development of a needs assessment	
	Adherence to and utilization of ICS and NIMS Development and implementation of a training strategy, including minimum core competencies and an exercise program.	
	Development of coordinated, integrated plans and procedures (created by interagency, multidisciplinary planning team).	
Regional Voluntary Agency Liaison, FEMA Region VII	Support the state, either by means of financial reimbursement or when the state cannot meet the need, FEMA could either contract or mission assign an agency to perform these functions. However, one key point is that the Post Katrina Emergency Management Reform Act only allows us legally to perform functions for household pets. Non-household pets (as defined in the CPG attachment) would have to be addressed with other Federal partners such as USDA or the FDA.	I would also add that we emphasize that planning for pets is critical, and FEMA is not asking that people make a choice between people and pets. Good planning takes into account people AND pets!!!
	To offer support to the state and partner agencies, in the areas of technical assistance and policy guidance.	
	The passing of the Post Katrina Emergency Management Reform Act allowed FEMA to	

Table A1.

Interview Response Data Matrix

Participant	Economic considerations	Public health considerations
Director of Emergency Programs, Alabama Department of Agriculture	provide support to states' eligible applicants for costs incurred for animal shelters and evacuation support. In addition, we provide planning guidance to local and state governments on the best practices in including household pets into emergency operations plans.	
	I could defer to the planning checklist on the CPG attachments, C-1. This is quite robust.	
	Coordinate local efforts together to form one coordinated response.	Co-located shelters are ideal: putting people close to their pets assists, not only caring in for animals but for mental health effects and logistical assistance for shelter workers.
	NGOs from different orgs working together under/in the same environment and conditions to complete the mission and under the auspices of a state or local government entity shows good planning and success.	Coordinate with state and local Veterinary Medical Associates/Vet Schools to provide veterinary advice and care during planning process as well as the response.
North Carolina SART	All efforts have to be coordinated to allow FEMA Stafford Act reimbursement of expenses and volunteer hours.	
	Utilization of a FOAD group to coordinate volunteer responders must happen to capture all of the hours put in the mission.	
	Public awareness and education: getting people to evacuate during an emergency.	The number of people at risk increase when they cannot take their pets because they will not evacuate if they cannot take their pets. When they do not evacuate, they put themselves and
	Co-located shelters has worked in many areas and	

Table A1.

Interview Response Data Matrix

Participant	Economic considerations	Public health considerations
Director, Animal Emergency Management Program, Colorado Veterinary Medical Foundation	just needs a dedicated, organized approach to make it happen, plus a plan before the emergency.	emergency workers in danger to save them.
	Plan is integrated into overall emergency response functions	
	Roles of responders are clear and concise	
	Incident command structure is followed.	
Senior Management Analyst II, ESF-17 Emergency Coordinating Officer, Division of Animal Industry, State of Florida SERT	Volunteers are appropriately trained.	
	Responders (of all functions-shelter, search, and rescue, veterinary) have exercised with appropriate local emergency response so to broaden local knowledge throughout emergency response operations.	
	Public awareness/education-citizens aware of their responsibility to care for their animals before, during and after an emergency.	All citizens have a disaster plan that includes their animals.
	All state and county emergency plans include animal references as needed.	
	When state/county has indentified public shelter, medical staff and other response supplies for animals.	
	Success is not when you have responded to the	

Table A1.

Interview Response Data Matrix

Participant	Economic considerations	Public health considerations
Executive Director Pennsylvania State Animal Response Team	needs of animals not taken care of by their owners but when you have no response needs due to the animal owners taking care of their animals and other family needs themselves.	
	*90% of your dollars are best spent on informing, educating, and training the public on how to care for their animals themselves during an event!	
	Minimizing the “on the fly” planning during an event.	Educating citizens on the need for a “family/household” preparedness plan.
	Exercising the plan prior to an event.	Insuring that safe, healthy temporary animal shelters have been established.
DVM, Burge Bird Services and Burge Bird Rescue MO	Integrating the animal plan as part of the local preparedness effort.	
	The emergency management for the city/county/state recognizes the importance of the animal rescue response and allocates resources to support the animal responders.	
	Animal rescue personnel receive training and credentials ahead of time so that they may function as an organized team and present themselves as trained professionals.	
	The availability of animal rescue and sheltering is widely broadcast so that all evacuees, emergency management and responders, Red Cross staff, and	

Table A1.

Interview Response Data Matrix

Participant	Economic considerations	Public health considerations
North Carolina CART	everyone else involved is aware that they have someone to contact when any animals issues arise.	
	Spontaneous unaffiliated volunteers are utilized in appropriate roles so that they feel they have served in a meaningful capacity to help animals rather than being turned away and feeling unappreciated.	
	All animals are properly identified and labeled so that they are returned to their owners when the disaster is over.	
	Number two, the ability of the shelters to manage the human and animal interaction.	The number one indicator is willingness of animal owners to evacuate with their animals.
	The third is the clean up afterward.	
	NC CART's role was to develop guidelines and make the necessary arrangement for facilities and equipment, and to arrange for staff and volunteers to carry out the program.	

Literature Review Data Matrix

Table A2.

Literature Review Data Matrix

Literature	Economic considerations	Public health considerations
Hall, et al., 2004, p. 368		The loss of human life is one of the most important public health benefits to including pets in emergency response plans. According to the Journal of Psychiatric Practice 2004, "The connection to animals influences compliance with individual and community evacuation plans"
Heath, Beck, & Glickman, 2001		<p>Heath et al. conducted a quantitative study in the Yuba County, California 1997 flood. Findings supported the claim that pet owners may not evacuate from disaster if they are unable to take their pets with them. More households with pets (20.9 % of 397 households surveyed) than households without pets (16.3 %) failed to evacuate. Moreover, the study reflects the more pets a household owned, the higher the risk of evacuation failure. The people surveyed had 36 hour advance evacuation notice of a flood.</p> <p>Pet owners may not evacuate a disaster if they cannot take their animals with them, if they anticipate being separated from their pets or if they are turned away from public shelters because of their pets. Due to the high percentage of pet ownership in the U.S., the behavior of this small population may have a large impact in disasters. The strength of the human-animal</p>

Table A2.

Literature Review Data Matrix

Literature	Economic considerations	Public health considerations
		bond was particularly relevant to the evacuation of pet owners.
		Pet owner households had a greater difficulty finding accommodations than those without pets. Roughly 7.4% of pet owner households stayed in their cars, campgrounds, or other accommodations during evacuation. “This suggests that having to find alternative accommodations for pets in a prolonged evacuation forces a significant lifestyle change on some households and could in some cases even lead to temporary homelessness” (Heath et al., 2001, p. 664).
Journal of Psychiatric Practice (2004) Hall, et al, p. 368		Search and rescue teams with canine units confront physical and emotional demands that affect both handler and animal. “Human attachment to animals may really be a unique bond, similar to but different from human attachment to humans...In one study, researcher determined that more than one-third of the dog owners in the study felt closer to their dogs than to any human family member”
McNicholas, et al. 2005		“The emotional bond between owner and pet can be as intense as that in many human relationships and may confer similar psychological benefits” (p. 1252).
		When faced with death of a pet, grief can cause a pet owner to refuse to take care of their own health. Numerous scientific studies performed over the past

Table A2.

Literature Review Data Matrix

Literature	Economic considerations	Public health considerations
Daily News writer, Amy Sacks, reported on September 6, 2008		<p>25 years support beliefs that many are healthier as result of companionship with a pet. Furthermore, the authors claim, many studies have demonstrated that animals have improved human cardiovascular health, reduced stress, decreased loneliness and depression, and facilitate social interactions among people who choose to have pets. Additionally, when many terminally ill, pregnant, or immunocompromised people are urged to relinquish their pets due to concerns about zoonoses this may be detrimental rather than beneficial for their overall health. “In many instances, human health professionals can contribute to the welfare of their patients by encouraging them to maintain bonds with their pets, even in the face of serious illnesses and other challenges” (p. 1252).</p> <p>Garo Alexanian, the rescuer who ran Companion Animal Network based in Queens, New York, desperately needed volunteers. Alexanian went to Terrebonne Parish in south Louisiana where he found many dogs tied up and left in homes that had no gas, electricity, or drinkable water</p> <p>Supplies such as cages, dog food, cat food, medicine, feeding bowls and large vehicles for transportation were desperately needed.</p> <p>Other teams present included the New York area animal groups that deployed before the storm and</p>

Table A2.

Literature Review Data Matrix

Literature	Economic considerations	Public health considerations
		<p>remained in the area to offer assistance. A team from North Shore Animal League came with two mobile van units to help transport animals from high-risk shelters to safe havens.</p> <p>Senior Director of Operations, Diane Johnson and four drivers helped to relocate 40 dogs that evacuated from the Plaquemines Animal Welfare Society to the Great Birmingham Humane Society in Alabama. The dogs remained there until they could be transported back to the Port Washington, LI, and shelter for adoption.</p> <p>This same team also deployed to Tylertown, LA to transport 38 elderly dogs with health problems and 13 cats that were evacuated before the storm to a no-kill shelter in Algiers, LA. This team remained available for any other animals in need.</p> <p>Johnson expected to wrap up their work in Louisiana by transporting 200 cats and dogs evacuated from Louisiana shelters back to North Shore. “Many lessons in how to deal successfully with Gustav were learned from the chaos of Katrina”</p> <p>"People were not going to leave this time without their pets," said Allison Cardona, who heads the ASPCA's disaster response team of veterinarians and caregivers. The group worked on the prestorm</p>

Table A2.

Literature Review Data Matrix

Literature	Economic considerations	Public health considerations
		<p>evacuation of people and their pets and is providing care for more than 800 animals at a mega-shelter in Shreveport, La.</p> <p>“The need to provide transportation and a place to shelter pets, Cardona said, was the most important lesson learned from Katrina, where thousands of animals were left stranded and many people had refused to evacuate New Orleans without their pets.”</p> <p>In addition to getting many hotels to waive their "no pets" policy, the group helped process thousands of pets that might have otherwise been stranded through a streamlined organization and identification procedure.</p> <p>“Pet owners who were evacuated on transportation provided by the government were photographed with their animals, and both were given wristbands with the same identification number. Smaller animals rode on the laps of their owners, and larger ones rode in air-conditioned trucks as they were bused to animal friendly shelters throughout the region.”</p> <p>At the mega-shelter set up at the Shreveport Fair Grounds, people housed in a Red Cross facility could visit their animals, sheltered next door in an</p>

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Literature Review Data Matrix

Literature	Economic considerations	Public health considerations
		<p>agricultural center. Along with hundreds of cats and dogs, five rabbits, 39 pigeons, a hermit crab and dozens of hamsters, parrots, reptiles and guinea pigs remain at the shelter, waiting until it's safe to return to their homes.</p> <p>Now that the storm has passed, the continued rescue effort will entail working in reverse: reuniting people with their pets, returning to evacuated areas and transporting animals from closed shelters to new ones for adoption. Still, Gustav is a reminder to pet owners everywhere. "The first thing to do is have your own personal preparedness plan," Cardona noted."</p> <p>More than 1,000 animals were rescued on Galveston Island in weeks after Hurricane Ike, reported by Galveston Human Society director, Caroline Dorett. More than 400 eventually were reunited with their owners after shipped to Houston SPCA.</p> <p>"American pet owners value their animal's lives and are unwilling to evacuate if their furry family members are denied rescue, shelter, or transportation to a safe area</p> <p>Hoping to avoid a repeat of Hurricane Katrina, when thousands of animals were killed, Gulf Coast authorities are helping get pets out of Gustav's way</p> <p>Many pet owners refused to budge from their homes three years ago because they were fearful of losing</p>
Gallay, 2009		
New York Daily News, 2008		

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Literature Review Data Matrix

Literature	Economic considerations	Public health considerations
		<p>their animal companions, which weren't welcome at emergency shelters</p> <p>This time, Louisiana Gov. Bobby Jindal said, pets are welcome at shelters.</p> <p>"The city has been hit so badly, they've lost so much and the last thing they have to hold on to is their animal," said Laura Bergeroi, a volunteer with Animal Rescue New Orleans.</p> <p>Pets weighing 15 pounds and under can sit on owners' laps. The rest will ride in temperature-controlled buses that will follow behind. Animals in shelters will be shipped to other cities - possibly even New York - according to Lee Anne Matherne, director of the Jefferson Parish Animal Shelter in New Orleans.</p> <p>Sylvania Moore was relieved to be able to keep her dog, Buddy, at her side as she fled New Orleans Sunday.</p> <p>"He gets to ride the bus with us, which is good," she said. "It's a relief that we didn't have to leave him behind."</p> <p>History shows that humans are less likely to take self-protective behaviors during emergencies and may actually take personal risks if they are unable to care for their pets adequately</p> <p>An estimated 120 of 575 households with pets failed</p>
Animal Disasters 2005; Basler 2006.		
Heath, Kass, Beck,		

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Literature Review Data Matrix

Literature	Economic considerations	Public health considerations
& Glickman, 2001		to evacuate following the 197 Yuba County California flood.
Decamp & Writer, 2007		The inability to stay with their pets was one of the reasons thousands of people failed to evacuate from the 2004 hurricane affecting Pasco County, Florida.
DVM Newsmagazine, 2006		The American Kennel Club surveyed 1,006 New York respondents, of which 62% stated that would defy authorities during a natural disaster to stay with pets if not allowed to evacuate with them.
Heath, Voeks, & Glickman, 2000		Returning to a disaster area to rescue their pet is also a major concern. Eighty percent of people who reentered a flood evacuation site did so to rescue their pets in Yuba County, California.
Heath et al., 2000		Of 203 households that were evacuated, 22.2% entered the evacuated area prematurely: 37% of those households did so to rescue their pet. Attempts to rescue pets were most common in households with children.
Beaver, Gros, Bailey, & Lovern, 2006		41% of pet-owning households that evacuated without their animals, later re-entered the disaster area to attempt to rescue their cat or dog
PETS Act, Pub. Law No. 109-308		Congress took note of the loss of human life and added grief of the Hurricane Katrina victims and passed a law to ensure pets would be included in future emergency response plans. On October 6, 2006 President Bush signed the Pets Evacuation and Transportation Standards Act.
Leonard & Scammon, 2007		The rationale for accommodating pets in disasters included economic, public health, emotional well-

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Literature Review Data Matrix

Literature	Economic considerations	Public health considerations
		being of humans who share a bond with pets, and the welfare of the pets themselves
		If emergency planning acknowledges the significance of animals to humans, enhanced safety of humans will be a natural by-product.
		A loss of a lifelong animal companion or pet can quash recovery or a sense of hope. Public sentiment has shifted toward a greater awareness of the emotional toll on humans with pets in disasters, and demands..."a more appropriate and ethical treatment of all living creatures."
Bloomberg.com 2005		Free-roaming animals in time of disaster can contaminate water and food supplies, creating a public health issue. Sick or dead animals spread bacteria, viruses, and parasites which can also cause infectious diseases, including cholera or anthrax.
FEMA Disaster Assistance Policy 9523.19, Eligible Costs Related to Pet Evacuations and Sheltering, issued October 24, 2007.	<p>"Household Pet Rescue: State and local governments may conduct rescue operations for household pets directly or they may contract with other providers for such services. Eligible costs include, but are not limited to, the following:</p> <p>Overtime for regular full-time employees.</p>	Evacuation of pets is a state and local responsibility.
Public Assistance Grant Program Public Assistance	Regular-time and overtime for contract labor (including mutual aid agreements) specifically hired to provide additional support required as a result of	

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Literature Review Data Matrix

Literature	Economic considerations	Public health considerations
Grant Program Briefing, June 13, 2008	<p>the disaster.</p> <p>Use of applicant-owned or leased equipment” (such as buses or other vehicles) to provide eligible pet transportation to congregate pet shelters may be reimbursed according to 44 CFR § 206.228(1)(a) (does not include operator labor).</p> <p>Cost of leasing equipment for this purpose may also be eligible for reimbursement.</p> <p>Public Assistance Grant money is available to states and may be eligible for reimbursement for costs associates with pet shelters (for evacuee pets), including veterinary staff for emergency and immediate life-stabilizing animal care following a presidentially declared disaster.</p> <p>Rescue expense of pets and Service animals</p> <p>Sheltering expenses of pets and Service animals</p> <p>Service animals not separated from their owners</p> <p>Service animals will ride on any form of transportation, will enter food service areas and will stay, at the owner’s cost in a shelter.</p> <p>Post disaster evacuation and sheltering of pets,</p>	

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Literature Review Data Matrix

Literature	Economic considerations	Public health considerations
October 6, 2006, PETS Act (October 6, 2006 signed into law, amending Section 403 of the Stafford Act. Section 403, as amended by the PETS Act, authorizes FEMA Eligible Costs Related to Pet Evacuations and Sheltering Disaster Assistance Policy 9523.19	<p>understand limitations pre-disaster so communicates can build response capabilities now and state and local emergency managers develop pre-disaster and coordinate animal evacuations and sheltering operations during disasters.</p> <p>The PETS Act was signed into law to provide rescue, care, shelter, and essential needs for individuals with household pets and service animals, and to the household pets and animals themselves following a major disaster or emergency.</p>	
Eligible Costs Related to Pet Evacuations and Sheltering Disaster Assistance Policy 9523.19	<p>Contractor or PNP is performing or has performed sheltering or rescuing operations on the applicant's behalf and the expenses are documented.</p> <p>1. <i>“Facilities.</i></p> <ul style="list-style-type: none"> • Minor modifications to buildings used for congregate household pet sheltering, if necessary to provide increased capacity for the accommodation of shelterers' household pets. • Facility lease or rent. 	

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Literature Review Data Matrix

Literature	Economic considerations	Public health considerations
	<ul style="list-style-type: none"> • Increase in utility costs, such as power, water, and telephone. • Generator lease and operation (but not purchase). • Shelter safety and security. • Shelter management. • Shelter and crate/cage cleaning. 	
	<p>2. <i>Supplies and Commodities.</i> Eligible items are those needed for, and used directly on, the declared disaster, and are reasonable in both cost and need. Examples include:</p> <ul style="list-style-type: none"> • Food, water, and bowls. • Crates/Cages. • Pet transport carriers. • Animal cleaning tables and supplies. • Medication for animal decontamination and parasite control to ensure that the animal is not a health threat to humans or other animals. 	
	<p>3. <i>Eligible Labor.</i> If the regular employees of an eligible applicant perform duties in direct support of congregate pet sheltering operations, any overtime pay related to such duties is eligible for reimbursement. However, the straight-time pay of these employees is not eligible. Regular-time and overtime for contract labor, including mutual aid agreements, specifically hired to provide additional support required as a result of the</p>	

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Literature Review Data Matrix

Literature	Economic considerations	Public health considerations
	disaster or emergency is also eligible for reimbursement.	
	4. <i>Equipment.</i> The use of applicant-owned or leased equipment (such as buses, trucks, or other vehicles) to provide eligible pet evacuation or sheltering support may be reimbursed according to 44 CFR §206.228(1)(a) (does not include operator labor). The cost of leasing equipment may also be an eligible expense for reimbursement.	
	5. <i>Emergency Veterinary Services.</i> For the purposes of screening the health of household pets and service animals, and assessing and treating minor illnesses and injuries, congregate pet shelters may be staffed with emergency veterinary teams. The following costs related to the provision of emergency veterinary services in a congregate pet sheltering environment are eligible for reimbursement:	
	<ul style="list-style-type: none"> • Veterinary diagnosis, triage, treatment, and stabilization. • Provision of first aid, including materials (bandages, etc.). • Medicine. • Supervision of paid and volunteer veterinary staff. • Vaccinations administered to protect the health 	

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Literature Review Data Matrix

Literature	Economic considerations	Public health considerations
	<p>and safety of congregate shelter and supporting emergency workers including but not limited to tetanus and hepatitis.</p> <ul style="list-style-type: none"> • Vaccinations administered to protect the health and safety of congregate shelter pets for transmissible or contagious diseases including but not limited to bordetella/kennel cough. 	
	<p>6. <i>Transportation.</i> Transportation of evacuees' household pets and service animals to congregate shelters from pre-established pickup locations is an eligible expense when the means of transportation used is the most cost-effective available.</p>	
	<p>7. <i>Shelter Safety and Security.</i> Additional reimbursable safety and security services may be provided at congregate pet shelters, based upon need.</p>	
	<p>8. <i>Cleaning and Restoration.</i> The costs (to the Applicant) to clean, maintain, and restore a facility to pre-congregate pet shelter condition are eligible.</p>	
	<p>9. <i>Removal and Disposal of Animal Carcasses.</i> The costs (to the Applicant) to remove and dispose of animal carcasses in a safe and timely manner and in compliance with applicable laws and</p>	

Table A2.

Literature Review Data Matrix

Literature	Economic considerations	Public health considerations
	regulations are eligible.	
	10. <i>Cataloging/Tracking System for Pets</i> . The reasonable costs (to the Applicant) for tracking animals at congregate pet shelters for the purposes of reuniting them with their owners are eligible”.	
Eligible Costs Related to Pet Evacuations and Sheltering Disaster Assistance Policy 9523.19	Service animals. Service animals will be sheltered with their owners in congregate shelters. (QUANTITY/UNIT UNIT PRICE COST) Length of Operation. Costs of sheltering/caring for household pets will no longer be eligible for FEMA reimbursement when the pet owner transitions out of Section 403 emergency sheltering.	
Goldman, 2009	Federal, state and local governments are cooperating to develop and enhance these teams. “An emergency kit should include a pet carrier; crate and leash; a photo of your pet along with veterinary records including proof of immunizations all in a plastic bag; pet food and medications; toys or comfort items; and any other items required to care for your animals. Make sure pets are micro chipped and registered through an identification program, and that all ID tags are always on them” (Goldman, 2009, p. 6D).	It is a ““false premise” that animals would be safe. Today teams across the country are created to care for animals during evacuations and are prepared to provide that care. Furthermore, “federal, state, and local governments are cooperating to develop and enhance these teams. This is a sea change and reflects the new understanding of our animals as family members. It also reflects an appreciation of the human-animal bond and the deep well of humanity that infuses our society.” Plan for animal care during evacuations and have created teams across the country that are prepared to

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Literature Review Data Matrix

Literature	Economic considerations	Public health considerations
	<p>*Bring pets indoors immediately when an emergency looms, such as a hurricane or tornado.</p> <p>Maintain updated copies of veterinary records, including immunizations.</p>	<p>provide that care.</p> <p>New understanding of our animals as family members” (Goldman, 2009, p. 6D). It also reflects an appreciation of the human-animal bond and the deep well of humanity that infuses our society.</p> <p>You must go to a public shelter, identify which ones in your area are expected to "co-locate" an animal evacuation shelter, as it is likely only some shelters will be designated pet-friendly. The "co-locate" concept is a new one: The pet shelter area is adjacent to or very near the human shelter to eliminate the problems of transportation, supplies and labor that exist when the animals are housed at fairgrounds or garages several miles away.</p> <p>over the past 10 years, emergency first responders and animal welfare communities discovered that “safe, efficient and complete evacuation requires that animals of the evacuees be cared for as well</p>
Peters, 2008	<p>“Dozens of experts from national animal groups who arrived on the Gulf Coast last week assisted with animal evacuations, cared for pets at evacuee centers, transported shelter animals to safer locales and rescued pets after the storm.</p> <p>More than 1,000 evacuee-owned dogs, cats, birds, bunnies, hamsters and iguanas -- and one snake --</p>	<p>"The government officials and procedures have taken into account that people won't leave without their pets and have made provisions for that," says Linda Anderson, who with her husband, Allen, investigated Katrina and wrote <i>Rescued: Saving Animals From Disaster</i>, a clarion call for advance disaster planning for animals. "The intake procedures are organized and standardized so animals don't get lost in the system. ...</p>

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Literature	Economic considerations	Public health considerations
	were being cared for Monday at the Mega Shelter in Shreveport, says Sandy Monterose of the American Society for the Prevention of Cruelty to Animals, one of several groups volunteering there” (Peters, 2008).	(The government) is working side by side with the animal groups."
Gallay, 2009	<p>And Best Friends arranged for a rush shipment of 3,000 animal crates Saturday after discovering that many pet-toting people were arriving at pickup sites without them.</p> <p>“More than 1,000 animals were rescued on Galveston Island in the weeks after the storm, according the Galveston Humane Society director Caroline Dorsett. More than 400 eventually were reunited with their owners after being shipped to the Houston SPCA.</p> <p>The Galveston Humane Society, which was leveled after the storm after sustaining hurricane damage, now is the happy recipient of a \$5,000 contribution in Diestler's name from an award he received this year from the Texas Veterinary Medical Association” (Gallay, 2009)..</p> <p>Diestler ran the clinic on generator power and collected rainwater in trash cans to care for the animals, keeping 50 to 60 at a time during the week after the storm. He fed animals, gave them examinations and vaccinated them for free.</p> <p>Humane Society director Dorsett is speaking at town-</p>	

Table A2.

Literature Review Data Matrix

Literature	Economic considerations	Public health considerations
	hall meetings, encouraging residents to include pets in their evacuation plans.	
	"I'm telling people, 'Be sure to take them; they are part of your family. They must go with you; don't leave them.'"	
"International Fund for Animal Welfare", 2008	<p>"IFAW (International Fund for Animal Welfare - www.ifaw.org) played a vital role in safeguarding the lives of more than 1300 animals as a mandatory evacuation set the stage for a massive exodus for both people and their pets.</p> <p>Groups worked together with the Louisiana State Animal Response Team (LSART) who set up a megashelter in Shreveport just days before Hurricane Gustav's landfall. Established in the Louisiana State Fairgrounds, the shelter is equipped to handle as many as 3,000 animals. The facility included dog kennels, a cat area and an "exotics" section housing parrots, reptiles and homing pigeons. IFAW's animal rescue trailer, which was funded by Petfinder.com Foundation, was stationed in Louisiana providing much needed support to the 10-person team of trained responders involved in the operation" ("International Fund for Animal Welfare", 2008).</p> <p>"This is a historic milestone for animals and people; for the first time in the history of Louisiana, all 12 coastal parishes were successfully evacuated and</p>	"Many lessons were learned since Hurricane Katrina, and pet owners have continually expressed their appreciation to our Shreveport shelter staff for the organized and efficient way they registered and kept track of hundreds of pets," said Dr. Becky Adcock, LSART's deputy director. "The kindness and attention they've shown to each individual animal has calmed the nerves and lifted evacuees' spirits during a very difficult and anxious period."

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Literature Review Data Matrix

Literature	Economic considerations	Public health considerations
	given safe shelter," said Dr. Dick Green, Disaster Response Manager for IFAW. "We have shown that people and their pets can evacuate safely and that preparation is vital preceding a disaster of this magnitude. Owners are encouraged to always include their pets in their Family Disaster Plan" ("International Fund for Animal Welfare", 2008).	
PR Newswire, New York, JUN 08. American Humane Aids Animal Shelters in Midwest Flooding	<p>\$3,000 emergency grant will allow the organization to continue the emergency sheltering of these animals, as well as providing food, leashes, bowls and other necessary items to residents who are now residing in motels or with family and friends, and who are quickly running low on resources.</p> <p>American Humane Association has issued \$12,500 in emergency grants to several animal shelters hit hardest by the flooding in Iowa. The grants will help these agencies provide emergency sheltering and care for hundreds of animals displaced or rescued from the flood waters.</p> <p>Paws and More Animal Shelter, Washington, Iowa</p> <p>This shelter has been taking in animals for emergency sheltering since the disaster began. It is currently housing 120 cats and 20 dogs, with more arriving daily. The \$3,000 emergency grant will be used to improve housing capacity and sanitation for the dogs</p>	<p>Founded in 1877, the American Humane Association is the only national organization dedicated to protecting both children and animals. Through a network of child and animal protection agencies and individuals, American Humane develops policies, legislation, curricula and training programs to protect children and animals from abuse, neglect and exploitation. The nonprofit membership organization, headquartered in Denver, raises awareness about The Link(R) between violence to people and violence to animals, as well as the benefits derived from the human-animal bond.</p>

Table A2.

Literature Review Data Matrix

Literature	Economic considerations	Public health considerations
	being sheltered.	
	Cedar Valley Humane Society, Cedar Rapids, Iowa	
	This organization has been taking in large numbers of animals since the flooding began. The facility's normal capacity is 170 animals -- it is currently sheltering nearly 300. Additional arriving animals are being cared for at the "overflow" site, Kirkwood Community College, where hundreds more animals are being sheltered. The \$3,000 emergency grant will allow the organization to continue the emergency sheltering of these animals, as well as providing food, leashes, bowls and other necessary items to residents who are now residing in motels or with family and friends, and who are quickly running low on resources.	
	Friends of the Animal Center Foundation, Iowa City, Iowa	
	The Iowa City Animal Care and Adoption Center was flooded with four feet of water and is uninhabitable. The shelter has been forced to evacuate its facilities and relocate to the Johnson County Fairgrounds, where it is now sheltering hundreds of animals. The \$6,500 emergency grant will be used to purchase temporary kennels, leashes, bowls, food and other emergency sheltering supplies. (Friends of the Animal	

Table A2.

Literature Review Data Matrix

Literature	Economic considerations	Public health considerations
PR Newswire, New York, 9 MAR 09. Petfinder.com Foundation 'Rescues'	<p>Center Foundation raises funds to support and expand the animal care services of the Iowa City Animal Care and Adoption Center.)</p> <p>Petfinder.com, the largest online database of adoptable pets, is distributing \$1 million worth of Honda power generators to 500 shelters and rescue groups nationwide with the help of Merial as part of Petfinder.com's Power to the Paws program, a disaster preparedness initiative launched earlier this year.</p> <p>many shelters and rescue groups did not have the tools needed to prepare for natural disasters. In response, the network of more than 12,000 animal welfare organizations developed Power to the Paws to ensure that our country's homeless animals are safe before disaster strikes.</p> <p>"It's crucial for animal welfare organizations to have a well-thought-out disaster plan and the appropriate resources before a disaster hits, so that they are not suffering afterward," said Betsy Saul, the co-founder of Petfinder.com. "Unfortunately, our network has seen how quickly disasters can devastate communities unexpectedly. We are thrilled to be able to dedicate money that will potentially save the lives of so many pets."</p>	
Teams rescue animals caught in multi-state floods , Krista Schultz.	Flooding was not the only concern for residents of Coffeyville, Kan., home of the Coffeyville Resources refinery. A pumping malfunction caused 42,000 gallons of crude oil to spill into south-central Kansas'	The most effective way to preserve the quality of life and safety of animals is through disaster preparedness and quick response efforts, officials say. "Every disaster for us is a learning experience," Reis says of

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(2007, August).	<p>Verdigris River, coating property, rescue workers and pets.</p> <p>With more than an estimated 400 animals impacted by water and oil floods, the Coffeyville Animal Control Department has been working around the clock, assisting all types of species, including ferrets, snakes, mice, dogs, cats and rabbits, says Director Devin Vohner.</p> <p>"Animals hit by the flood are saturated with oil. Right now the waters have receded, but we still have a lot of animals we need to get decontaminated," says Volmer, who categorized the flood as "a really, really bad mess.</p> <p>"We've never been close to anything like this before. It's been overwhelming for the residents and all of us," Volmer says of the 12,000-resident town. "We are working 12- to 15-hour days, dealing with the heat wave, had no drinkable water. None of the area restaurants was open. We are overloaded and overwhelmed with animals. It is hard."</p>	<p>AHA and other rescue organizations. "But if we can leave here giving the community a little more knowledge for the future, our job is done."</p>
Kathy J Ellis. (2007). Disaster Readiness: Lessons From Katrina	<p>Pets were also an important consideration. In a disaster, veterinary offices close just as other businesses and many employees simply refuse to leave their family animals at home alone. Being sensitive to that, Ochsner supports a volunteer pet care team who help register and monitor pets in a safe</p>	

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	and secure area of the parking garage lobbies. While not ideal, it was consoling for pet owners to know their beloved friends were safe and available for their affection on off shifts.	
Silver-Greenberg, 2005		Schroff says it's a mistake for owners to leave their pets behind. Such a decision can compound the emotional distress, particularly for children. "People just don't know what else to do," she says. But with a little training, they can find out.
AVMF rolls out \$6.5 million disaster plan. (2003, September).	<p>BUILDING RESPONSE PROTOCOLS</p> <p>DENVER-The American Veterinary Medical Foundation (AVMF) embarks on the largest single fundraising effort in its history to support statewide animal disaster preparedness and response teams.</p> <p>Approved by the group's Executive Board in July during the American Veterinary Medical Association's annual convention in Denver, AVMF launches a three-year, \$6.5 million plan designed to make every state disaster ready by the end of the decade. The group's initial goal includes assisting at least 18 states before 2007.</p> <p>AVMF partnered with the North Carolina State Animal Response Team (SART) to provide training and technical assistance for the development of a model disaster program for state-by-state implementation. The SART model fosters multi-agency cooperation to manage statewide response</p>	

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	mechanisms by region and county.	
	"What Colorado needed - and what AVMF delivered - was the catalyst event that brought together a wide array of agencies and individuals in order to create a sense of common commitment to emergency issues, rather than views of segmented ownership," says Ralph Johnson, executive director of the Colorado Veterinary Medical Association.	

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Rep. Christopher Shays, from Connecticut , (R-CT), cochairman of the Friends of Animal Caucus	<p>This commonsense bill requires state and local preparedness planners to include plans for evacuation of pet owners, pets, and service animals. Having passed this legislation once in the House, we now have an opportunity to include several important provisions that have been included by the Senate strengthening the bill, and then being able to send it directly to the President.</p> <p>These provisions include granting FEMA the authority to assist in developing evacuation plans, and authorizing financial help to states to create emergency shelters for people with their animals. Hurricane Katrina left so many victims in its wake, including up to 600,000 animals that lost their lives or were left without shelter.</p> <p>To qualify for Federal Emergency Management Agency, FEMA, funding, a jurisdiction is required to submit a plan detailing their disaster</p>	<p>This bipartisan legislation is necessary because when asked to choose between abandoning their pets or their personal safety, many pet owners chose to risk their lives and would continue today to risk their lives and remain with their pets.</p> <p>This is not just an animal protection issue; this is a public safety issue. Roughly two-thirds of American households own pets. We need to ensure the pets and their pet owners are protected.</p> <p>In the middle of hurricane season, it is imperative that regulations to include pets in evacuation plans be placed in anticipation of future tragedies.</p> <p>The human horror and devastation in Louisiana, Mississippi and Alabama was a tragedy we are addressing, but it was also heartbreaking to hear stories of forcing evacuees to choose between being rescued or remaining with their pets.</p>

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	<p>preparedness plan. The PETS Act would simply require state and local emergency preparedness authorities to plan for how they will accommodate households with pets or service animals when presenting these plans to FEMA.</p>	<p>I, too, want to make reference to that young man; I guess he was around 7 years old. I think of him and think this young man may have lost his home, he may have lost everything he owned, but he had his pet. As long as he had his pet, he could deal with it. To see this pet being grabbed from him, to me it was the height of cruelty that I still have a hard time understanding and appreciating.</p> <p>When my mom and dad moved when I was 8 or 9 years old to another place, our pet dog, Mack, kept running back to the original house, and we lost him. For 2 years, I didn't have a pet, but I grew up with a pet. Then we moved to a new home and my parents could afford nothing else. They told me no Christmas presents. There would be no Christmas presents. My Christmas present was a new home, a brand new room, and I dealt with that. I thought, this year, no Christmas presents.</p> <p>They were gone Christmas Eve day, and they came home that night. They didn't tell me where they had been, which was very unusual. I was with my three older brothers. Then my parents asked me to come down into the garage. As I did, they were walking up holding a beautiful collie pup.</p>

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		<p>That night I slept on the floor with Lance, my collie pup.</p> <p>I will never forget the joy I had. It was the best Christmas I ever had, and it was just one little gift, a pet that remained in our household for years.</p> <p>This is an important bill, and I urge its passage.</p>
Rep. Tom Lantos, (D-CA), cochairman of the Friends of Animal Caucus introduced	<p>The PETS Act has influenced state officials to make plans for people with pets and service animals. Miami-Dade and Broward Counties in Florida have shelters that accept animals, as well as careful instructions for people forced to leave their homes who may have animals. This demonstrates that emergency planners are more than capable of making effective plans for people with pets or service animals.</p> <p>Now, more than ever, with hurricane season upon us, this bill is of the utmost importance. The PETS Act will ensure that states will continue to plan for their pet and service animal populations, which will in turn ensure a smoother and safer evacuation for all members of the family.</p>	<p>We help our citizens prepare for the next disaster. Our legislation, the PETS Act, will ensure that families and people with disabilities will never be forced to choose between being rescued or remaining with their pets or service animals.</p> <p>Requiring local and state emergency planners to take into consideration the needs of evacuees with household pets and people with disabilities who have service animals is a simple and effective way to ensure saving as many human lives as possible. If people can leave their homes knowing that all members of their family, including their pets, will be safe, it will make for a more civilized and more efficient evacuation.</p> <p>before the images of the gulf coast hurricanes of</p>

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		<p>last year begin to fade from our national memory, it is imperative that we help our citizens prepare for the next disaster. Our legislation, the PETS Act, will ensure that families and people with disabilities will never be forced to choose between being rescued or remaining with their pets or service animals.</p> <p>The PETS Act will ensure that states will continue to plan for their pet and service animal populations, which will in turn ensure a smoother and safer evacuation for all members of the family.</p> <p>Ensure the safety of household pets and service animals and their owners as well.</p> <p>Heartbreaking choices the gulf residents had to make, I was moved to find a way to prevent this from ever happening again.</p> <p>The scene from New Orleans of a 9-year-old little boy crying because he was not allowed to take his little white dog Snowball was too much to bear. Personally, I know I wouldn't have been able to</p>

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		<p>leave my little white dog Masko to a fate of almost certain death.</p> <p>As I watched the images of the heartbreaking choices the gulf residents had to make, I was moved to find a way to prevent this from ever happening again. Requiring local and state emergency planners to take into consideration the needs of evacuees with household pets and people with disabilities who have service animals is a simple and effective way to ensure saving as many human lives as possible. If people can leave their homes knowing that all members of their family, including their pets, will be safe, it will make for a more civilized and more efficient evacuation.</p> <p>Never before in my long congressional career have I received so much support and encouragement for a piece of legislation, Mr. Speaker, not only from citizens in my own district, but from a national audience that shares my concerns for the safety of these animals and their owners.</p> <p>Since the hurricanes of last year, the PETS Act has influenced state officials to make plans for people with pets and service animals. Miami-Dade and</p>

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		<p>Broward Counties in Florida have shelters that accept animals, as well as careful instructions for people forced to leave their homes who may have animals. This demonstrates that emergency planners are more than capable of making effective plans for people with pets or service animals.</p> <p>On behalf of the tens of millions of families across our Nation who have pets, I urge all of my colleagues to vote for this important legislation.</p>
Rep. William Shuster, from Pennsylvania	<p>I would like to thank Chairman Young, who is an original sponsor of this legislation for his leadership and guidance on the bill, and on the broader emergency management reform bill that will be on the floor, we hope, next week.</p> <p>I would also like to commend Mr. Shays for his leadership on the committee's investigating response to Hurricane Katrina. He worked tirelessly to resolve the flaws in our Nation's emergency management system that became apparent during Hurricane Katrina.</p> <p>Breaking FEMA up and burying its pieces within</p>	<p>I am pleased to have one of these specific reforms on the floor today, H.R. 3858, the PETS Act, that ensures the needs of people with household pets and service animals are considered by state and local emergency preparedness plans.</p> <p>During the evacuation of the gulf coast region last fall, we learned of the difficulty of evacuating household pets and service animals. Concerns over whether pets would be permitted to accompany their owners made some victims reluctant or unwilling to evacuate, choosing to wait out the disaster. The PETS Act would help ensure that household pets and service animals are considered</p>

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	<p>the massive Homeland Security bureaucracy was a mistake, I believe. Since Hurricane Katrina, the Transportation Committee, the Select Committee on Hurricane Katrina, held dozens of hearings on Katrina and drafted the most comprehensive report on reforming our emergency management system.</p> <p>I will close very quickly because I am in danger of being labeled as a big softy if I give too much in the way of closing comments. I will close by just asking all of my colleagues to support this piece of legislation which is important to millions and millions of Americans.</p>	<p>by state and local emergency preparedness plans.</p> <p>Both Mr. Lantos and Mr. Shays have been champions of this issue and have worked to ensure that owners don't have to make a choice between their personal safety and their pets' safety.</p> <p>When you go to a rooftop, as we saw down in New Orleans as Mr. Shays and Mr. Lantos pointed out, people are unwilling to get aboard a boat or helicopter if they have to leave their beloved pet behind. Once again, this is so states and local emergency preparedness plans take into consideration situations that might occur if someone has to abandon their pets.</p> <p>The Senate amended the PETS Act to permit FEMA to fund structures that will accommodate pets and service animals and provide essential assistance to people with pets and service animals following a disaster.</p> <p>I would also like to commend Mr. Shays for his dedication and hard work in moving this legislation. Mr. Shays has been a champion of this</p>

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		<p>issue and has worked to ensure that owners don't have to make a choice between their personal safety and their pet's safety.</p> <p>People become very attached to their pets. I have a Wheaton terrier that has become part of the family, and it would be very difficult to leave Chloe behind in a disaster. I certainly can understand and empathize with those folks who have household pets.</p>
Rep. Ben Chandler [D-KY6]	<p>In order to qualify for Federal Emergency Management Agency funding, a jurisdiction is required to submit a plan detailing their disaster preparedness plan.</p> <p>The PETS Act would simply require state and local emergency preparedness authorities to plan for how they would accommodate household pets and service animals when presenting these plans to FEMA. Animals do not go before people, but animals will have a place in this plan.</p>	<p>As we witnessed during the aftermath of Hurricane Katrina, a significant number of people chose not to abandon their pets and risked their lives to stay with their animals. Some areas of Florida where hurricanes are a yearly occurrence has long recognized saving animals saves people and include a place for animals in emergency plans. And now, in the wake of Hurricane Katrina, a few areas and other Gulf Coast States, including Harrison County, Mississippi, will have its first pet-friendly shelter in place for the 2006 hurricane season.</p> <p>However, unfortunately, for most of the gulf coast and indeed the rest of the country, the issue is still</p>

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		<p>unresolved unless legislation like this is approved today. All of us saw many horrible scenes of abandoned pets wandering through the flooded city of New Orleans. In addition to the humanitarian issue of forcing people to choose between their own safety and leaving their pets behind, there are serious problems, including health and safety risks to the disaster area, that are exacerbated by the abandoning of pets.</p> <p>Many of these problems can be mitigated or even eliminated through proper emergency planning</p> <p>Like this helps increase the awareness of lawmakers and emergency officials to recognize what animal advocates already know, that pets figure strongly in a person's decision to evacuate to safety. And we certainly want to encourage our citizens to do just that.</p> <p>Mr. Speaker, the work of my colleagues, along with the Herculean efforts of all the animal welfare organizations, will ensure not only the safety of household pets and service animals but of their owners in moments of potential fatal danger. Families will be able to prepare and evacuate from</p>

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		<p>a disaster with more confidence and security knowing that all of their family members and their pets will be secure.</p> <p>Until today, accommodating families with pets or disabled citizens with service animals was never considered an essential part of any evacuation plan. Our PETS Act requires state and local emergency preparedness authorities to include in their evacuation plans provisions to accommodate pets or service animals in case of a disaster.</p> <p>The lack of planning in the past interfered with disaster operations in New Orleans where people who were worried about losing their animal companions often refused rescuers' help. If evacuees know that their pets, who obviously are considered members of their family, are in good hands, they will be willing to cooperate with authorities.</p> <p>According to the Humane Society of the United States, Mr. Speaker, there are 65 million dogs and 77 million cats owned as pets by American families. Thousands of visually impaired people depend on guide dogs to get around. These faithful</p>

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		<p>pet owners and visually impaired citizens must be able to evacuate if in the path of harm, and they must know that all members of their family will be safe.</p> <p>It must be a top priority of our Nation to save citizens from any disaster, yet we should not underestimate the importance of rescuing pets to our ability to help citizens in a disaster. None of us should be faced with the choice of abandoning our beloved pets and critically needed service animals or risking our own personal safety.</p> <p>The sight of evacuees having to choose between being rescued or remaining with their pets, perhaps even having to leave behind their service animals they rely on every day, was just heartbreaking</p> <p>I was watching television one night, Mr. Speaker, and I saw a 7-year-old little boy with his dog. His family lost everything, and all they had left was their dog. And since legislation such as ours was not yet on the statute books, the dog was taken away from this little boy. To watch his face was a singularly revealing and tragic experience.</p>

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Rep. James Oberstar, from Minnesota [D-MN8]	<p>And to the gentleman from Connecticut (Mr. Shays), who has been associated so much with the process of campaign finance reform and other similar matters, to lend his support and his concern, his character, to a matter of this kind and to partner with the gentleman from California, both coasts joining to support something greater than all of us.</p> <p>As others have said, my wife and I watched the horror of Hurricane Katrina. Jean's home is New Orleans. Her family were there. Two brothers both had property losses, severe property loss. She knew as the cameras moved around the city from one street to the next, I walked that street, I know the people in that house. They have a pet.</p>	<p>This bill was born the moment the 7-year-old little fellow had to give up his dog because there was no provision to provide shelter for his pet.</p> <p>Some of the most indelible images were the ones of people being forced to choose between leaving their pets behind or being evacuated to safety.</p> <p>In many cases, these loyal animals had stayed with their owners for days on rooftops waiting to be rescued, only to be abandoned because the rescuers refused to carry the pets to safety with their owners. In other cases, people chose not to be rescued-putting themselves in further danger-because they simply could not bear to leave their pets behind.</p> <p>We will now make it possible to avoid such dire choices in the future by putting in place a structure by which we can accommodate the needs of people and the lives they lead and the pets they have that are important to their living.</p> <p>That dog is up in the attic and they are not going to leave because they cannot rescue the pet.</p>

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		<p>We will now make it possible to avoid such dire choices in the future by putting in place a structure by which we can accommodate the needs of people and the lives they lead and the pets they have that are important to their living.</p> <p>Mr. Speaker, it is refreshing in a time of perception of contentiousness in the legislative bodies that we can consider a matter of this nature and have such thoughtful, constructive, civilized dialogue on a matter that touches the heart of so many of our fellow citizens. And how fitting to have a survivor of the Holocaust whose whole life and career has been concerned with saving people from tragedy, to lend his voice and his stature, his character and dignity to saving the lives of pets.</p> <p>A person should not have to leave their seeing-eye dog behind in order to save her own life-as we saw in Hurricane Katrina. Nor should a child, who has already been traumatized by the devastation of a disaster, have to abandon his beloved pet in order to be transported to safety-as we saw in Hurricane Katrina. As the June 1st start of the next hurricane</p>

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		<p>season approaches, it's important that this bill becomes law and that state and local officials start to plan for the evacuation of pets and service animals.</p> <p>Mr. Speaker, it is refreshing in a time of perception of contentiousness in the legislative bodies that we can consider a matter of this nature and have such thoughtful, constructive, civilized dialogue on a matter that touches the heart of so many of our fellow citizens. And how fitting to have a survivor of the Holocaust whose whole life and career has been concerned with saving people from tragedy, to lend his voice and his stature, his character and dignity to saving the lives of pets.</p> <p>As others have said, my wife and I watched the horror of Hurricane Katrina. Jean's home is New Orleans. Her family were there. Two brothers both had property losses, severe property loss. She knew as the cameras moved around the city from one street to the next, I walked that street, I know the people in that house. They have a pet. That dog is up in the attic and they are not going to leave because they cannot rescue the pet.</p>

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Rep. Silverstre Reyes [D-TX6]		<p>One problem with our response was a blind spot in our disaster planning regarding the evacuation of pets and service animals.</p> <p>For too many caring animal owners, the opportunity to escape danger means separation from a beloved pet.</p> <p>More grievous, the evacuation of many residents of the Gulf Region who are dependent on service animals was complicated by inflexible regulations that did not take their special needs into account.</p> <p>This is commonsense legislation that will ensure planning for future disaster provides for the needs of pet owners.</p>
Finance Committee Member, Sen. Diana & E. Bajoie	“We have to come up with a way [to fund this].	<p>“Many people, I know for a fact, aren’t going to leave without their animals”.</p> <p>“I think this is a life or death issue”</p>
Rep. Dennis Kucinich	What is noteworthy is that in the last few days, this Congress has had three pieces of legislation in front of it that have a similar theme: The tribute that we paid to the Dalai Lama, and	Among the injustices incurred in the gulf coast were citizens forced to choose between their own safety and that of their pet or service animals. And the example that Mr. Lantos gave of the 9-year-old

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	<p>yesterday our support for the one day of peace, and today our support for the PETS Act, all are about compassion and the recognition of the importance of compassion in the life of this Nation.</p> <p>I think it is important for us to reflect that this is a strong capacity that we have that when we touch it, it touches people's hearts everywhere.</p> <p>I encourage my colleagues to join in support of <u>H.R. 3858</u>, the Pets Evacuation Transportation Standards Act. Passage of this bill is essential to the safety of all citizens and their pets in emergency and disaster circumstances. Hurricanes Katrina and Rita will long be held in our collective conscious. It has been just over one year since we saw the terrified and helpless faces of the victims these natural disasters claimed, displaced, and horrified. The unbearably inadequate response to these disasters exacerbates the shame, the heartache and insecurity that has resulted. The images haunt us; and it is not just the images of our fellow human beings, but that of our gracious household pets and service</p>	<p>boy who had to part with his beloved dog is an example of the heartbreak that all of us can relate to.</p> <p>Some chose to compromise their own safety, unwilling to evacuate without their pet, despite the great risk to themselves and their families. Others were forced to leave these important friends behind, abandoned and alone. Animals were left to survive on their own with little hope of survival, causing the very understandable human emotions of pain and agony that accompanied this choice.</p> <p>Some, dependent upon a service animal for their own safety and survival, were made to leave their companions behind, a direct threat to their own security.</p> <p>Natural disasters are unavoidable; compromising the safety of our citizens is not. That is why I ask my colleagues to join me in support of <u>H.R. 3858</u>, the PETS Act, to ensure that in times of disaster no citizen is forced to compromise their own safety or well-being for that of their service animal.</p>

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	animals.	
	<p>It is estimated that well over half of U.S. households include a pet or vital service animal as a member of the family. In the Kucinich household, we have three dogs, two beagles and one cocker spaniel, and anyone who has a pet understands how it would tug at your heart to have to be separated from that pet in a time of emergency.</p> <p>We know that the gulf coast region affected by the hurricanes had as many as 600,000 pets and service animals. Most of these animals could not be saved, and few have been reunited with their original owners.</p> <p><u>H.R. 3858</u>, the PETS Act, will ensure that emergency preparedness for the safety of our own citizens includes the proper protocol to identify, evacuate, and shelter people, pets and service animals in times of emergency evacuations.</p>	<p>What is noteworthy is that in the last few days, this Congress has had three pieces of legislation in front of it that have a similar theme: The tribute that we paid to the Dalai Lama, and yesterday our support for the one day of peace, and today our support for the PETS Act, all are about compassion and the recognition of the importance of compassion in the life of this Nation.</p> <p>It is estimated that well over half of U.S. households include a pet or vital service animal as a member of the family. In the Kucinich household, we have three dogs, two beagles and one cocker spaniel, and anyone who has a pet understands how it would tug at your heart to have to be separated from that pet in a time of emergency.</p> <p>We know that the gulf coast region affected by the hurricanes had as many as 600,000 pets and service animals. Most of these animals could not be saved, and few have been reunited with their original owners.</p>

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Pets Evacuation and Transportation Standards Act of 2006 Amends the Robert T. Stafford Disaster Relief and Emergency Assistance Act	<p>Authorizes the Director to: (1) study and develop plans that take into account the needs of individuals with pets and service animals prior to, during, and following a major disaster or emergency; and (2) make financial contributions, on the basis of programs or projects approved by the Director, to the states and local authorities for animal emergency preparedness purposes, including the procurement, construction, leasing, or renovating of emergency shelter facilities and materials that will accommodate people with pets and service animals.</p> <p>Authorizes federal agencies to provide, as assistance essential to meeting threats to life and property resulting from a major disaster, rescue, care, shelter, and essential needs to individuals with household pets and service animals and to such pets and animals.</p>	<p>Ensure that state and local emergency preparedness operational plans address the needs of individuals with household pets and service animals following a major disaster or emergency.</p> <p>Requires the Director of the Federal Emergency Management Agency (FEMA) to ensure that state and local emergency preparedness operational plans address the needs of individuals with household pets and service animals prior to, during, and following a major disaster or emergency.</p> <p>Provide essential assistance to individuals with household pets and service animals following a disaster.</p>